

# Climate Change Management

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Editors

# Climate-Smart Technologies

Integrating Renewable Energy and Energy  
Efficiency in Mitigation and Adaptation  
Responses

Prepared as part of the project “Small Developing Island Renewable Energy Knowledge and Technology Transfer Network” (DIREKT), funded by the ACP Science and Technology Programme, an EU programme for cooperation between the European Union and the ACP region.



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# Preface

Climate change is regarded as having the potential to derail the good efforts that countries have undertaken for decades to overcome poverty and boost growth. Moreover, in countries with the possibility to seize renewable energy sources, overall socio-economic development is impaired if a large share of the gross domestic product is spent on imported fuels.

Climate-smart technologies such as the use of renewable energy is, for example, of great relevance for the socio-economic development of countries in the Africa–Caribbean–Pacific (ACP) region, especially in Small Island Developing States (SIDS), as to date these vulnerable islands heavily depend on (imported) fossil fuels to meet their energy needs.

Apart from the environmental benefits and the fact that it concretely contributes to mitigate climate change, the local generation and use of renewable energy can offer many benefits for improving economic development (e.g., a wide range of local job opportunities, from high-skill to low-skill, and from high-tech to agriculture) as well as foster investments and reduce energy imports. Moreover, introducing non-fossil energy provision may foster the often low adaptive capacity of the local population to withstand the future challenges of climate change, to which SIDS are particularly vulnerable. Although renewable energy provisions today reach many distant regions, local actors are still lacking expertise and capacity-building is difficult due to limited access to the latest technologies and knowledge, especially in ACP Small Island Developing States.

In order to address the perceived need for a publication which looks at both, climate-smart technologies and the integration of renewable energy and energy efficiency in mitigation and adaptation responses, this book has been produced.

This reference book is based on a set of truly international contributions, provided from two main events. The first is the “International Conference on Technology Transfer and Renewable Energy 2012” held in Mauritius on 21–22 June 2012. The second source is the fifth online climate conference (CLIMATE 2012), held on 5–9 November 2012. Both initiatives were undertaken as part of the project “Small Developing Island Renewable Energy Knowledge and Technology Transfer Network” (DIREKT), funded by the ACP Science and Technology Programme, an EU programme for cooperation between the European Union and the ACP region. DIREKT partners are the Hamburg University of Applied

Sciences (Germany), the University of Mauritius (Mauritius), the University of the West Indies (Barbados and Trinidad and Tobago), and the University of the South Pacific (Fiji).

This book is divided into three main parts. Part I (Climate Change Trends and Strategies) focuses on papers handling matters of strategic nature such as political frameworks and policies, paying special attention to social and economic issues. Part II (Renewable Energy Strategies and Methods) contains a set of papers which deal with technical aspects of energy efficiency and renewable energy use on the one hand, and their strategic nature in energy security on the other. Part III (Climate-Smart Energy Technologies) looks at technologies which may assist with climate change mitigation and adaptation on the one hand, but which also deliver multiple benefits on the other, especially in respect of food security and development benefits.

A unique feature of this publication is that it introduces a variety of concrete projects, initiatives, and strategies currently being undertaken and implemented across the ACP region and beyond, showcasing concrete examples of how new technologies as a whole, and renewable energy in particular, can assist island nations in meeting the challenges climate change pose to them.

We hope this book will prove useful to all those interested in the connections between climate change mitigation, adaptation, and technology transfer in small island developing States.

I want to thank all authors for sharing their know-how, the co-editors, as well as Dr. M. Sima, Ms. F. Rivas, and Mrs. J. Babir for their support in producing this book.

Enjoy your reading!

Walter Leal Filho

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