

# 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

# Contents

## Part I Climate Change Trends and Strategies

<b>1</b>	<b>An Overview of Climate-Smart Technologies in the Pacific Region</b> . . . . .	<b>3</b>
	Pritika Bijay, Veronika Schulte and Shivneel Prasad	
<b>2</b>	<b>Climate Change Mitigation in Developing Countries Using ICT as an Enabling Tool</b> . . . . .	<b>19</b>
	Abel Niyibizi and Alexander Komakech	
<b>3</b>	<b>Climate Regulation: Implications for Trade Competitiveness in Caribbean States</b> . . . . .	<b>33</b>
	Michelle Scobie	
<b>4</b>	<b>Climate Change Issues on the Pacific Islands: An Overview</b> . . . . .	<b>51</b>
	Tony Weir and Dan Orcherton	
<b>5</b>	<b>A Framework for Technology Cooperation for the Successful Deployment of Renewable Energy Technologies in Pacific Island Countries and Territories</b> . . . . .	<b>65</b>
	Emanuele Taibi	
<b>6</b>	<b>The Vulnerability, Adaptation and Resilience Capabilities of Water Sector Users in Mauritius</b> . . . . .	<b>75</b>
	Reshma Cunnoosamy	
<b>7</b>	<b>Mapping of Organisations Involved in Energy Research Activities in the Pacific Island Region, Their Research Projects, Budgets and Research Gaps</b> . . . . .	<b>89</b>
	Sheikh Izzal Azid and Anjeela Jokhan	

<b>8</b>	<b>A Transition Management Approach to Designing Post-Kyoto Climate Policy Architecture: A Framework for Negotiation . . . . .</b>	<b>97</b>
	Shahryar Mohammadrezaie Omran	
<b>9</b>	<b>Climate Change Assessment Using Statistical Process Control Methods . . . . .</b>	<b>113</b>
	Branko Vučijak, Tarik Kupusović, Sanda Midžić-Kurtagić and Admir Ćerić	
 <b>Part II Renewable Energy Strategies and Methods</b>		
<b>10</b>	<b>Sustainable Energy Development in the Pacific: The Evolution of Energy Frameworks and National Policies . . . . .</b>	<b>129</b>
	Anirudh Singh, Solomone Fifita, Rupeni Mario, Pritika Bijay and Anirudh Singh	
<b>11</b>	<b>Promoting Renewable Electricity Generation in Developing Countries: Findings from Comparative Analyses in South America . . . . .</b>	<b>141</b>
	Isabel Ribeiro and Jonathan Krink	
<b>12</b>	<b>Knowledge Exchange and Application of Hydropower in Developing Countries . . . . .</b>	<b>157</b>
	Christoph Rapp, Andreas Zeiselmaier, Emile Lando and Mfetoum Mounnutou	
<b>13</b>	<b>“Sustainable Energy for All” Approach to SIDS: A Case Study from Dominica . . . . .</b>	<b>173</b>
	Raúl Iván Alfaro-Pelico	
<b>14</b>	<b>A Comprehensive Study of the Wind and Solar Potential of Gau Island, Fiji . . . . .</b>	<b>189</b>
	Ravita D. Prasad	
<b>15</b>	<b>The Potential for Using Renewable Sources of Energy in Mauritius . . . . .</b>	<b>207</b>
	Jaykumar Chummun	
<b>16</b>	<b>The DIREKT Project: An Example of a Technology Transfer Project on Renewable Energy . . . . .</b>	<b>219</b>
	Veronika Schulte, Walter Leal Filho and Jonathan F. Krink	

<b>17</b>	<b>Strategies Developed by DIREKT for the Small Island Developing States to Enhance Renewable Energy Utilisation . . . .</b>	<b>235</b>
	Dinesh Surroop, Romeela Mohee, Pratima Jeetah, Walter Leal Filho, Veronika Schulte, Julia Gottwald, Natasha Corbin, Varsha Persaud, Thomas Rogers, Anirudh Singh, Pritika Bijay, Jagdesh Ramnanan, Indra Haraksingh and Debbie Emandie	
<b>18</b>	<b>Past and Present Green Economy Initiatives and Capacity Building and Financial Mechanisms for the Future Development of the Barbados Energy Sector . . . . .</b>	<b>245</b>
	Tom Rogers and Ksenia Chmutina	
<b>19</b>	<b>Project Funding for Innovative Research and Development Projects: A Practical Example in the Field of Renewable Energy . . . . .</b>	<b>259</b>
	Jochen Selle and Stefan Franzke	
<b>20</b>	<b>Modern Technologies of Biomass Combustion and Pre-treatment for more Efficient Electricity Production: Review and Case Analysis . . . . .</b>	<b>269</b>
	Wlodzimierz Blasiak	
<b>21</b>	<b>Remote Sensing and GIS Techniques for the Assessment of Biofuel and Biomass Energy Resources . . . . .</b>	<b>283</b>
	Lalit Kumar and Anirudh Singh	
<b>22</b>	<b>A Method for Mapping Monthly Solar Irradiation Over Complex Areas of Topography: Réunion Island’s Case Study . . .</b>	<b>295</b>
	Miloud Bessafi, Béatrice Morel, Jean-Daniel Lan-Sun-Luk, Jean-Pierre Chabriat and Patrick Jeanty	
<b>23</b>	<b>Case Study Analysis of Urban Decentralised Energy Systems. . . .</b>	<b>307</b>
	Ksenia Chmutina and Chris I. Goodier	
<b>24</b>	<b>Strengthening of R&amp;D Competences and Engineering Skills for Renewable Energy Systems: Examples from the Hamburg University of Applied Sciences . . . . .</b>	<b>325</b>
	Timon Kampschulte	
<b>25</b>	<b>Software and Information Technology Support in a Virtual Renewable Energy Laboratory, Based on Areal Physical Environment—ECO UQAR—UOM Potential Collaboration . . . .</b>	<b>335</b>
	Drishty Singh Ramdenee, Adrian Ilinca, Dinesh Surroop and Romeela Mohee	



<b>26</b>	<b>The New Green Revolution: Sustainable Agriculture for the Caribbean Through the Use of Renewable Energy . . . . .</b>	<b>349</b>
	Indra Haraksingh	
<b>27</b>	<b>Assessment of the Most Sustainable Renewable Energy Configuration in Mauritius and Rodrigues . . . . .</b>	<b>365</b>
	M. Tsang Pun Yin, J. Jayasuriya, T. Fransson, Surroop Dinesh and Mohee Romeela	
 <b>Part III Climate-Smart Energy Technologies</b>		
<b>28</b>	<b>Adoption of Climate-Smart Technologies: The Case of Rural Solar Electricity in the Pacific Islands . . . . .</b>	<b>379</b>
	Tony Weir and Shivneel Prasad	
<b>29</b>	<b>A Geographic Information Systems Approach to Mitigating Sea Level Rise: Examples from Bermuda . . . . .</b>	<b>393</b>
	Richard Snow, Mary Snow and Sebastian Brisson	
<b>30</b>	<b>Estimation of Carbon Stock in Church Forests: Implications for Managing Church Forest to Help with Carbon Emission Reduction . . . . .</b>	<b>403</b>
	Tulu Tolla Tura, Mekuria Argaw and Zewdu Eshetu	
<b>31</b>	<b>Fast Pyrolysis and Kinetics of Sugarcane Bagasse in Energy Recovery . . . . .</b>	<b>415</b>
	Mahir Said, Geoffrey John, Cuthbert Mhilu and Samwel Manyele	
<b>32</b>	<b>Characterization of Pyrolysis Kinetics for the Use of Tropical Biomass as Renewable Energy Sources . . . . .</b>	<b>425</b>
	P. Ndalila, G. R. John and C. F. Mhilu	
<b>33</b>	<b>Prospects and Limitations of Biomass Gasification for Industrial Thermal Applications in Sub-Saharan Africa . . . . .</b>	<b>435</b>
	Joseph Ndemere Arineitwe, Mackay Okure, Job Mutyaba and Surroop Dinesh	
<b>34</b>	<b>Anaerobic Digestion of Vegetable Wastes Using Biochemical Methane Potential Assays . . . . .</b>	<b>447</b>
	Ackmez Mudhoo, Romeela Mohee, Zumar M. A. Bundhoo and Dinesh Surroop	

<b>35 Viability of Using Cassava as Feedstock for Bioethanol Production in Fiji . . . . .</b>	<b>459</b>
Pritika Bijay and Anirudh Singh	
<b>36 Feasibility of Using Solar Energy as a Source of Renewable Energy in Mauritius Under Collaboration of DIREKT . . . . .</b>	<b>473</b>
Pratima Jeetah, Dinesh Surroop, Romeela Mohee, Walter Leal Filho, Veronika Schulte and Julia Gottwald	
<b>37 Optimization of Biogas Production to Use in Cooking Stove. . . . .</b>	<b>483</b>
Hemant Munbod, Dinesh Surroop and Deepak Reedyo	
<b>38 Efficiency Optimisation of Three-Phase Induction Motor Using Swarm Intelligence . . . . .</b>	<b>499</b>
M. Asraf Ally Jubokawa and Robert T. F. Ah King	
<b>39 Energy Use in Manufacturing Industries Evidence from Sweden . . . . .</b>	<b>517</b>
Clara Inés Pardo Martínez and Semida Silveira	
<b>40 Assessing the Potential of Torrefaction for Locally Available Biomass in Mauritius . . . . .</b>	<b>531</b>
Surroop Dinesh and Mooloo Devina	
<b>41 Investigating the Potential of Using Coconut Oil–Diesel Blends in a Diesel Engine in Rodrigues Islands. . . . .</b>	<b>547</b>
Dinesh Surroop and Krishna Sooprayen	
<b>42 Investigation of Vegetable Oil Conversion by Thermal Deoxygenation and Cracking for Alternative Biofuel Generation . . . . .</b>	<b>563</b>
Christian Augustin and Thomas Willner	
<b>43 Bio-ethanol Production from Readily Available Lignocellulosic Biomass in Mauritius Through Enzymatic Hydrolysis . . . . .</b>	<b>577</b>
Pratima Khadoo-Jeetah and Romeela Mohee	
<b>44 A Smart Technology of Carbon Sequestration by the Use of Biochar . . . . .</b>	<b>587</b>
Ulrich Suer, Friedrich Naehring and Gopathi Balachandra	

**45 The Impact of Smart Metering on Energy Efficiency in Low-Income Housing in Mediterranean. . . . . 597**  
Ales Podgornik, Boris Susic, Peter Bevk and Damir Stanicic

**46 Optimization of a Stand-Alone Renewable Energy System for a Small Load Requirement . . . . . 615**  
Shivneel Prasad, Ajal Kumar and Atul Raturi