

Contents

Introduction	1
Subhes C. Bhattacharyya and Debajit Palit	
 Part I Mini-Grid Concepts and Challenges	
Suite of Off-Grid Options in South Asia	11
Subhes C. Bhattacharyya, Debajit Palit and V. V. N. Kishore	
Technical Aspects of Mini-Grids for Rural Electrification	37
P. J. Boait	
Smart Design of Stand-Alone Solar PV System for Off Grid Electrification Projects	63
Parimita Mohanty and Tariq Muneer	
Analytical Frameworks and an Integrated Approach for Mini-Grid-Based Electrification	95
Subhes C. Bhattacharyya, Arabinda Mishra and Gopal K. Sarangi	
Demand Management for Off-Grid Electricity Networks	135
P. J. Boait	
Business Issues for Mini-Grid-Based Electrification in Developing Countries	145
Subhes C. Bhattacharyya	
 Part II Case Studies	
Approach for Designing Solar Photovoltaic-Based Mini-Grid Projects: A Case Study from India	167
K. Rahul Sharma, Debajit Palit, Parimita Mohanty and Mukesh Gujar	

Renewable Energy-Based Mini-Grid for Rural Electrification: Case Study of an Indian Village.	203
Rohit Sen and Subhes C. Bhattacharyya	
From SHS to Mini-Grid-Based Off-Grid Electrification: A Case Study of Bangladesh	233
Subhes C. Bhattacharyya	
Application of Multi-criteria Decision Aids for Selection of Off-Grid Renewable Energy Technology Solutions for Decentralised Electrification.	283
Dattakiran Jagu, D. Pugazenthi and V. V. N. Kishore	
Energising Rural India Using Distributed Generation: The Case of Solar Mini-Grids in Chhattisgarh State, India.	313
Debajit Palit, Gopal K. Sarangi and P. R. Krithika	
Poverty Amidst Plenty: Renewable Energy-Based Mini-Grid Electrification in Nepal	343
Gopal K. Sarangi, D. Pugazenthi, Arabinda Mishra, Debajit Palit, V. V. N. Kishore and Subhes C. Bhattacharyya	
Viability of Husk-Based Mini-Grids in South Asia	373
Subhes C. Bhattacharyya	
Conclusions.	395
Subhes C. Bhattacharyya and Debajit Palit	
About the Editors	403
Index	405

Mini-Grids for Rural Electrification of Developing
Countries

Analysis and Case Studies from South Asia

Bhattacharyya, S.C.; Palit, D. (Eds.)

2014, X, 409 p. 123 illus., Hardcover

ISBN: 978-3-319-04815-4