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List of Abbreviations

°C	Degrees Centigrade
A	Amp
AC	Alternating Current
AEDP	Alternative Energy Development Plan
a-Si	Amorphous Silicon
BAPV	Building Applied Photovoltaic
BIPV	Building Integrated Photovoltaic
BOO	Build-Own-Operate
BoP	Balance of Plant
c-Si	Crystalline Silicon
CB	Circuit Breaker
CDM	Clean Development Mechanism
CdTe	Cadmium Telluride
CE	Conformance European (European Commission)
CER	Certified Emission Reduction
CERC	Central Electricity Regulatory Commission
CFADS	Cash Flow Available for Debt Service
CIGS/CIS	Copper Indium (Gallium) Di-Selenide
CIS	Copper Indium Selenide
CSC	Cost Settlement Center
CSP	Concentrated Solar Power
DC	Direct Current
DIN	Deutsches Institut für Normung
DNI	Direct Normal Irradiation
DSCR	Debt Service Coverage Ratio
DSRA	Debt Service Reserve Account
DSP	Digital Signal Processing
EHS	Environmental, Health and Safety
EIA	Environmental Impact Assessment
EN	European Norm
EMI	Electromagnetic Interference
EPC	Engineering, Procurement and Construction
EPIA	European Photovoltaic Industry Association
EPFI	Equator Principles Financial Institutions
ERU	Emission Reduction Units
EU	European Union
EUA	EU Allowance
FAC	Final Acceptance Certificate
FiT	Feed-in Tariff
GCR	Ground Cover Ratio
GHG	Greenhouse gas
GHI	Global Horizontal Irradiation
GSM	Global System for Mobile Communications
GTI	Global Tilted Irradiation
HV	High Voltage
IAC	Intermediate Acceptance Certificate
ICC	International Chamber of Commerce
ICSID	International Centre for Settlement of Investment Disputes
IEA	International Energy Agency
IEC	International Electrotechnical Commission
IEE	Initial Environmental Examination
IFC	International Finance Corporation
IGBT	Insulated Gate Bipolar Transistor
IP	International Protection Rating or Internet Protocol
IPs	Indigenous Peoples
IPP	Independent Power Producer
IRENA	International Renewable Energy Agency
IRR	Internal Rate of Return

List of Abbreviations *(continued)*

I_{SC}	Short-Circuit Current
JI	Joint Implementation
JNNSM	Jawaharlal Nehru National Solar Mission
kWh	Kilowatt Hour
LCOE	Levelised Cost of Electricity
LD	Liquidated Damages
LLCR	Loan Life Coverage Ratio
LPS	Lightning Protection System
LTV	Loan to Value
LV	Low Voltage
MCB	Miniature Circuit Breakers
MPP	Maximum Power Point
MPPT	Maximum Power Point Tracking
MRA	Maintenance Reserve Account
MTTF	Mean Time to Failure
MV	Medium Voltage
MVA	Mega-volt ampere
MW	Megawatt
MWp	Megawatt Peak
NAPCC	National Action Plan on Climate Change
NCRE	Non-Conventional Renewable Energy
NHSFO	Non Honoring of Sovereign Financial Obligations
NPV	Net Present Value
NREL	National Renewable Energy Laboratory
NVVN	National Thermal Power Corporation Vidyut Vyapar Nigam
OECD	Organisation for Economic Cooperation and Development
OEM	Original Equipment Manufacturer
O&M	Operations and Maintenance
PID	Potential Induced Degradation
PIR	Passive Infrared
PPA	Power Purchase Agreement
PR	Performance Ratio
PV	Photovoltaic
REC	Renewable Energy Certificate
REC	Renewable Energy Credit
REIPPP	Renewable Energy Independent Power Producer Procurement
ROI	Return on Investment
ROW	Right of way
RPO	Renewable Purchase Obligation
SCADA	Supervisory Control and Data Acquisition
SERC	State Electricity Regulatory Commission
SPV	Special Purpose Vehicle
STC	Standard Test Conditions
TCO	Total Cost of Ownership
TCP	Transmission Control Protocol
TGC	Tradable Green Certificate
THD	Total Harmonic Distortion
UL	Underwriters Laboratories, Inc.
UNFCCC	United Nations Framework Convention on Climate Change
UV	Ultraviolet
V_{OC}	Open Circuit Voltage
V	Volt
VAT	Value-Added Tax
VDE	Verband der Elektrotechnik, Elektronik und Informationstechnik
WACC	Weighted Average Cost of Capital
Wp	Watt Peak

Foreword

Although it currently represents a small percentage of global power generation, installations of solar photovoltaic (PV) power plants are growing rapidly for both utility-scale and distributed power generation applications. Reductions in costs driven by technological advances, economies of scale in manufacturing, and innovations in financing have brought solar power within reach of grid parity in an increasing number of markets. Continued advancements and further cost reductions will expand these opportunities, including in developing countries where favourable solar conditions exist. Policy environments for renewable energy in the developing world are being refined, drawing on the lessons learned from the successes and failures of policies adopted in first-mover markets. We now see several regulatory models being successfully deployed in the developing world with consequent increase in investment and installations. Solar is proving to be viable in more places and for more applications than many industry experts predicted even a few years ago.

At the same time, this rapid market growth has been accompanied by an observed uneven expertise and know-how demonstrated by new market entrants. Building capacity and knowledge on the practical aspects of solar power project development, particularly for smaller developers, will help ensure that new PV projects are well-designed, well-executed, and built to last.

Enhancing access to power is a key priority for the International Finance Corporation (IFC), and solar power is an area where we have significant expertise. IFC has invested in more than 55 solar power projects globally representing about 1,400 MW of capacity, with key recent transactions in Thailand, the Philippines, India, China, Jordan, Mexico, South Africa, Honduras, and Chile.

We trust that this publication will help build capacity amongst key stakeholders, as solar power continues to become a more and more important contributor to meeting the energy needs in emerging economies.

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Acknowledgements

This publication is an expanded and updated version of the *Utility-Scale Solar Power Plants* guidebook published by IFC in 2011. Both versions (2011 and present) were developed by Sgurr Energy under contract for IFC, with substantial contributions from IFC staff. Ben Lumby was the lead author and technical editor within Sgurr Energy and was greatly assisted by Vicky McLean. Stratos Tavoulareas (IFC) managed the development of the book and contributed extensively to the content with additional input from IFC colleagues Alex Blake and Lauren Inouye.

The authors are grateful for the input and peer review of IFC technical and finance experts Guido Agostinelli, Pep Bardouille, Katharina Gassner, Chandra Govindarajalu, Rory Jones, Hemant Mandal, Elena Merle-Beral, Alasdair Miller, Alejandro Moreno, Juan Payeras and Bryanne Tait. Jeremy Levin and John Kellenberg provided valuable input, guidance and management support throughout. Additionally, this publication would not have been possible without the input of SgurrEnergy team members working from the head office in Glasgow (UK) and offices in India, South Africa, France, Canada, U.S. and China.

IFC would like to thank the governments of Ireland, Luxembourg, the Netherlands, Norway, and Switzerland for their support in producing this report.