



EARTHSCAN EXPERT SERIES

SOLAR TECHNOLOGY

THE EARTHSCAN EXPERT
GUIDE TO USING SOLAR
ENERGY FOR HEATING,
COOLING AND ELECTRICITY

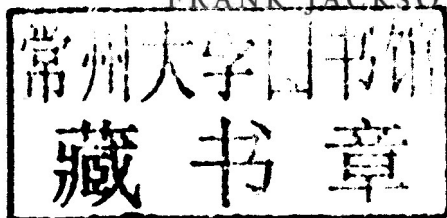
David Thorpe

Solar Technology

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to Using Solar Energy for Heating,
Cooling and Electricity

David Thorpe

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List of Acronyms and Abbreviations

AC	alternating current
BCH	Banco Central Hipotecario
BIPV	building-integrated photovoltaics
BRE	Building Research Establishment
BTES	borehole thermal energy storage
Btu	British thermal unit
CDM	Clean Development Mechanism
CFLR	compact Fresnel lens reflector
CHP	combined heat and power
COP	coefficient of performance
CPC	compound parabolic concentrating
CPV	concentrator solar cells
CSP	concentrating solar power
DC	direct current
DHW	domestic hot water
DNI	direct normal irradiation
DTC	differential thermostatic controller
ELCC	effective load carrying capability
EPDM	ethylene propylene diene monomer
ESTELA	European Solar Thermal Electricity Association
FITs	'feed-in' tariffs
GHI	global horizontal irradiation
HDDs	heating degree days
HDPE	high-density polyethylene
HVAC	heating, ventilation and air conditioning
IEA	International Energy Agency
ISE	Fraunhofer Institute for Solar Energy Systems (Freiburg)
LCOE	levelized costs of energy
LEDs	light emitting diodes
LEED	Leadership in Energy and Environmental Design
LFR	Linear Fresnel Reflector
MD	membrane distillation
MEDISCO	MEDiterranean food and agro Industry applications of Solar COoling technologies
MESoR	Management and Exploitation of Solar Resource Knowledge
MPPT	maximum power point tracking
MVHR	Mechanical Ventilation with Heat Recovery
nm	nanometres
NREL	National Renewable Energy Laboratory
PCM	phase-change material
PEX	cross-linked polyethylene
PHPP	Passive House Planning (Design) Package
PPE/PS	polyphenylene ether/polystyrene
PRINCE	Promoters and Researchers in Non-Conventional Energy
PV	photovoltaic

PVC/PU	polyvinyl chloride/polyurethane
PVG-IS	Photovoltaic Geographical Information System
PV/T	PV power generation and solar water heating
RO	reverse osmosis
SHGC	solar heat gain coefficient (US)
SOLEMI	Solar Energy Mining
SPH	solar pool heating
STC	standard test conditions
SVTC	Silicon Valley Toxics Coalition
SWH	solar water heating
THERM	Two-dimensional building HEat tRansfer Modelling
TISS	Thickness Insensitive Spectrally Selective
UV	ultraviolet
VAT	value added tax
WAPI	Water Pasteurization Indicator
W/m ²	watts per square metre

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