

ACRONYMS, ABBREVIATIONS & DEFINITIONS

2021 Solar Appliance Technology Briefs

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EFFICIENCY FOR ACCESS COALITION

ACRONYMS & ABBREVIATIONS

A2EI	Access to Energy Institute
AC	Alternating Current
AI	Artificial Intelligence
ALRI	Acute Lower Respiratory Infection
AMI	African Mobility Initiative
ATM	Automatic Teller Machine
B2B	Business to Business
B2C	Business to Consumer
BLDC	Brushless Direct Current
BMS	Battery Management System
Bn	Billion
BoP	Bottom of the Pyramid
CaaS	Cooling-as-a-Service
CAGR	Compound Annual Growth Rate
CAPEX	Capital Expenditure
CNC	Computer Numerical Control
DC	Direct Current
DER	Distributed Energy Resources
DES	Distributed Energy Systems
DoE	Department of Energy
e-2w	Electric Two-Wheeler
e-3w	Electric Three-Wheeler
EforA	Efficiency for Access
E-Cooking	Electric Cooking
EPC	Electric Pressure Cooker
EI	Energy Efficiency Index
EMF	Electromagnetic Field
E-mobility	Electric/Electro Mobility
ESMAP	Energy Sector Management Assistance Program
EV	Electric Vehicle
E-Waste	Electronic Waste
FAME	Faster Adoption and Manufacturing of Hybrid and EV
FOB	Free on Board
GBP	Abbreviation for the British Pound Sterling
GHG	Greenhouse Gas
GOGLA	Global Off-Grid Lighting Association
GSM	Global System for Mobile Communications
GW	Gigawatts
HIS	Health Information System
HVAC	Heating, Ventilation and Air Conditioning
IAP	Indoor Air Pollution
ICE	Internal Combustion Engine

ACRONYMS & ABBREVIATIONS

ICT	Information and Communications Technology
IoT	Internet of Things
IEC	International Electrotechnical Commission
IEEE	Institute of Electrical and Electronics Engineering
IRENA	International Renewable Energy Agency
KPLC	Kenya Power and Lighting Company
kW	Kilowatt
kWh	Kilowatt Hours
L	Litres
LC	Inductors (L) and Capacitors (C)
LED	Light-Emitting Diode
LDV	Light Duty Vehicle
LE	Low Energy
LEIA	Low-Energy Inclusive Appliances
LEO	Low-Earth Orbit
Li-ion	Lithium-Ion
M4D	Mobile for Development
MaaS	Mobility-as-a-Service
mAh	Milliamp Hour
MECS	Modern Energy Cooking Services
MFA	Mobility for Africa
MIDH	Mission for Integrated Development for Horticulture
M-learning	Mobile Learning
MT	Million Tons
NCCD	National Centre for Cold Chain Development
NDC	Nationally Determined Contributions
NGO	Non-governmental organisation
OEM	Original Equipment Manufacturer
OGCCC	Off-Grid Cold Chain Challenge
OLPC	One Laptop per Child
OPEX	Operating Expense
OSI	Open Systems Information
PAYGo	Pay-As-You-Go
PM	Permanent Magnet
PMKSY	Pradhan Mantri Krishi Sampada Yojana
PREO	Powering Renewable Energy Opportunities
PUR	Polyurethane
PV	Photovoltaic
QA	Quality Assurance
RBF	Results-based Financing
R&D	Research and Development
SA	South Asia

ACRONYMS & ABBREVIATIONS

SDD	Solar Direct-Drive
SDG	Sustainable Development Goal
SES	Stationary Energy Storage
SMS	Short Message Service
SSA	Sub-Saharan Africa
SWP	Solar Water Pump
TCO	Total Cost of Ownership
UN	United Nations
UNEP	United Nations Environment Programme
USB	Universal Serial Bus
USD	United States Dollar
VAC	Vapour Absorption Cycle
VAT	Value-Added Tax
VCC	Vapour Compression Cycle
VFD	Variable-Frequency Drive
VIPs	Vacuum Insulated Panels
WHO	World Health Organisation

DEFINITIONS

Compatibility

The ability of two or more systems or components to perform their required functions while sharing the same hardware or software environment without adversely affecting each other.

Distributed Energy Systems

Small-scale power generation and storage systems that are not connected to the centralised electrical grids. They are modular and thus can be sized based on the expected local energy needs. Distributed energy systems typically use renewable energy as the main energy source.

Electric Mill

Mills whose motors are powered by electricity (this includes grid electricity, min-grids or standalone solar PV systems. When an electric mill's motor is powered using standalone solar PV systems, it is referred to as a solar mill.

Emerging Technologies

Early stage technologies which have gained market traction in recent years, but remain out of reach for most consumers. Solar water pumps and refrigerators fall into this category.

Enabling Technologies

Early stage technologies which may be disruptive to existing dominant appliances. These technologies may create opportunities to leapfrog in terms of efficiency or cost, with implications potentially for a whole range of products. Permanent magnet (PM) motors, interoperability and information and communications technology (ICT) fall into this category.

Energy Efficiency

Energy efficiency means using less energy to perform the same task -- that is, eliminating energy waste. Energy efficiency brings a variety of benefits: reducing greenhouse gas emissions, reducing demand for energy imports and lowering costs on household and economy-wide level.¹

Horizon Technologies

Horizon technologies are technologies that are not yet fully brought to scale but are likely to scale up in the near future. Like enabling technologies, they are early stage technologies which may be disruptive to existing dominant appliances and may create opportunities to leapfrog in terms of efficiency or cost. Electric pressure cookers (EPCs), e-mobility, cold storage and milling fall into this category.

Interchangeable

Devices that can be physically exchanged for each other and can still operate at the same time without additional modification.

Interoperability

Extends the definition of compatibility to include the ability to exchange and use information via digital communications.

Internet of Things (IoT)

The network of devices (e.g. appliances) that are embedded with sensors, software and other technologies for the purpose of connecting and exchanging data with other devices and systems over the Internet.

Manual Milling

Using a pestle and motor to crush grain.

Mechanical (Automated) Milling

Milling using a power source other than human labour for example wind mills, water mills, etc.

Mill Energy Efficiency

Amount of milled product per unit of energy used measured in kg per Kilo watt hour (Kg/Kwh).

Mini-Grid

A mini-grid is a group of interconnected distributed energy resources (DERs) plus loads, or a single DER plus load(s), within clearly-defined boundaries. Mini-grids can be isolated or connected to a grid.²

Near-to-Market Technologies

Appliances for which the demand is strong and clear, but which are only available in low volumes and at a relatively high cost.

Off-Grid

Not connected to or served by centralised utilities (such as electricity, gas, or water).³

1. Environmental and Energy Study Institute, Energy Efficiency: <https://www.eesi.org/topics/energy-efficiency/description>.

2. SEforAll, mini-grids: https://minigrids.org/wp-content/uploads/2020/06/Mini-grids_Market_Report-20.pdf.

3. Meriam Webster Dictionary, Off-Grid: <https://www.merriam-webster.com/dictionary/off-grid>.

DEFINITIONS

Productive Use

A productive use of energy facilitates income generating activities and improves overall business climate. There is a strong and proven connection between increased commercial energy consumption and improved human welfare.

Retrofit Mills

Mills whose powering mechanism has been converted from diesel engines into an electric motor.

Semantic Interoperability

Extends syntactic interoperability to provide shared understanding/interpretation/meaning of the exchanged information and required/useful results.

Standardisation

Standardisation is the process of creating protocols to guide all relevant parties in the sector to use a uniform approach in conducting or designing certain activities.

Standard Electric Mill

A subset of electric mills powered on the main grid or mini-grid.

Solar Mill

A subset of electric mills, whose motor is powered using standalone solar PV systems. They may include a battery or be direct drive (no battery).

Syntactic Interoperability

The capability of systems/devices to communicate and exchange meaningful information.




Throughput

The amount of output (e.g. grains) that can be processed by the machine in a given time (e.g. kilogram/hour).

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ACCESS



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