

sun2live

sun2live

sun2live™ solutions
solar + energy storage

by The meeco Group



Power generation and energy storage, anywhere.

sun2live™ is The meeco Group's small-to-medium scale distributed generation and storage solution for both grid-connected and off-grid use.

Acting as a 24/7 power supply source or a backup solution, **sun2live™** provides electricity to households, businesses and communities dependent on unreliable, expensive, or difficult-to-maintain power sources. Our module solutions utilize the latest solar power generation (ground or roof-mounted) and a variety of energy storage technologies to meet your specific needs.

sun2live™ solutions utilize photovoltaic (PV) as the primary energy source and the latest battery technologies to ensure availability throughout the day or even under cloudy/night-time conditions.

In regions with insufficient solar radiation, a small wind or hydro turbine can supplement the PV technology. And if necessary to ensure reliable operation in harsh environments, the batteries, inverter, charge controller, diesel generator, and online performance-monitoring electronics are protected within the alkube™, a thermally-insulated aluminum housing.



Configuration options

Our objective is to fully meet client's power requirements while minimizing their initial and ongoing costs. Our end solutions are based on an initial analysis of the local solar conditions as well as surface type and power requirements. From left to right below, we recommend options most suitable for your site location.

Level 1 Relation to grid



Grid-connected



Off-grid

Level 2 Installation surface

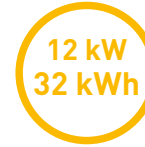
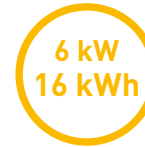


Ground



Rooftop

Level 3 Installation size



Features

sun2live™ configurations are defined by two main parameters, kilowatts (kW) and kilowatt-hour (kWh), which describe respectively the nominal power capacity of the PV equipment and the power storage capacity of the battery equipment.

Our Engineers consider both these parameters, as well as local situations, to design the most appropriate power generation and storage solution for each client's particular situation.

We then incorporate advanced, top-tier technology from manufacturers around the world to maximize the performance and reliability of our solutions.

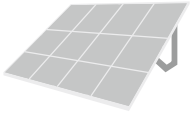
- Two standard sizes: 6 kW / 16 kWh and 12 kW / 32 kWh
- Custom sizes for bigger power and storage requirements
- Standard and custom solutions can incorporate a variety of:
 - PV solar modules (brands, power, quantities)
 - PV mountings systems (for ground and roof applications)
 - Battery sizes, capacities, and technologies (e.g., lithium, vanadium, lead-acid GEL)
 - Power inverter and charge controller sizes and brands
 - Wind turbine, hydro power and fuel generators
 - Housings for electrical components (e.g. alkube)

Benefits

- Reliable electricity on-demand
- Wide range of power and storage capacity (1-100 kWp, 3-30 kWh)
- Seamless switching between output sources to eliminate power interruptions
- Custom sizes to minimize initial investment
- Engineered to install quickly and operate/maintain easily
- Online 24/7 performance monitoring to maximize uptime

Components

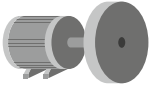
Power generator



PV modules

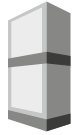


Wind turbine
(optional)



Hydro turbine
(optional)

Power storage



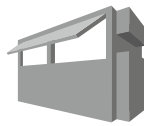
Lithium batteries

OR



GEL batteries

OR

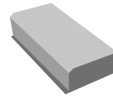


Vanadium
batteries

Power management & monitoring



Controller



Inverter



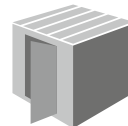
Online
monitoring
(optional)

On-site housing



Client housing

OR



alkube

The meeco advantage

Our solutions incorporate the best elements of our global capabilities:

- Swiss design expertise based on over 100 installations worldwide
- German engineering and quality from over 250 MW of operating power
- Local customer service (order follow-up, technical support)

These strengths, combined with our attention to detail and project management expertise, ensure **sun2live™** solutions are delivered on-time and on-spec.

Applications



Remote power supply:

Off-grid applications, namely remote telecommunication sites, resorts, rural villages requiring a 24/7 power supply.



Uninterrupted power supply:

Weak grid locations, such as hospitals or agricultural/manufacturing operations threatened by costly power interruptions.



Grid buffering:

Small grid-connected power installations where energy storage is needed to buffer and continuously distribute power to the grid.



Load shaving:

Private, commercial or industrial clients use renewable energy facilities (PV, wind or hydro) installed on-site to shave off their energy needs from the grid or diesel generators and thereby substantially reduce bills and costs associated to their use.

(See load shaving concept sheet)

Technical data

■ Installed capacity

Up to 20 kWp

■ Module inclination

As per location

■ PV module output range

60-290 Wp

■ PV module technology

CIS, Mono or Polycrystalline

■ PV module brands

Bosch, aleo, Würth Solar, Sunpower, Suntech, Solar Frontier

■ PV mounting structure

Material: Marine-grade aluminum

Dimensions (L x W x H): 420 x 280 x 150 cm (165.3 x 110 x 59")

Standard layout: Two rows of four panels (extendable)

Rooftop: Equivalent structure applied to rooftop angles and surface.

■ PV mounting sub-structure

Material: marine-grade aluminum

Dimensions: L = 420 cm (165.3")

Anti-theft screws: Secur-Screw by a+f GmbH (or equivalent)

Rooftop: Equivalent structure applied to rooftop angles and surface.

■ PV mounting foundations

Materials: steel-reinforced M10x180 case; Eurosert® 9408 M10 insert (or equivalent); Concrete or stone filler

Dimensions (L x W x H): 280 x 30 x 15 cm (110 x 11.8 x 6")

Standard layout: One every two panels

Rooftop: Foundation is replaced by a suitable fixing system either penetrating the roof membrane or non-penetrating.

■ Battery (Lithium Ion, Lead-Acid GEL)

Lithium cells from Durion, Samsung, Kokam (or equivalent)

Lead-Acid GEL cells from Exide / Sonnenschein or Tuncmatik (or equivalent)

Nominal power capacity: 10-30000 Ah

Storage power capacity: 1-1000+ kWh

Recharging time: 2 hours for Lithium, 12 hours for Lead-acid.

Energy density: Up to 115 Watt hours per kg

Cycles: Up to 8000 in standard use conditions*

Operating temperature range: 0°C to 40°C

■ Inverter

SMA, Kaco, Siemens, Studer Innotec (or equivalent)

Capacity: 1-30 kW

Output: Single-phase or three-phase

Surge protection

■ Charge controller

Steca Solar, SMA, Siemens (or equivalent)

Capacity: 20 – 150 Amps

■ alkube housing

Material: Marine-grade aluminum profiles and panels

Dimensions (L x W x H): 200 x 200 x 200 cm (78.8 x 78.8 x 78.8")

Shipment-ready flat pack

Weight: 200 kg (441 lb)

Thermally-insulated; fully rust free

* Depends on usage factors such as DOD (depth of discharge), capacity factor, operating temperature, and voltage per cell.



About The meeco Group

As a leader in clean renewable energy, meeco™ has provided clients with services and solutions for over 250 MW across three continents.

We work behind the scenes with project developers, businesses, governments, technology providers, and EPC contractors to structure, finance, and commission highly bankable projects. By providing the optimal set of services and solutions for each project, we generate attractive returns for clients and other stakeholders.

The meeco Group delivers these services and solutions via regional offices located worldwide to ensure we address local requirements and community needs.

Some of these services and solutions include:

- **clear advisory services:**
strategic consulting, project services, financial advisory and communications
- **oursun™ turnkey solutions:**
grid-connected and off-grid solutions, sun2go™ portable solutions and energy storage solutions
- **asset management services:**
on-going site services

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