旭威能源科技股份有限公司
SettWay Energy Technology Corporation

# Settway Energy System

Renewable Resources，Energy Conservation，Eco-friendly Technology

創新、發展、節能、環保

## PV works best to support power consumption in hot weather during peak demand for electricity.

Assuring high efficiency solar PV system in place, it requires experienced EPC provider's expertise in building plan also it counts on their reliable continuous maintenance service for years to come. (Engineering Procurement Construction abbreviated to EPC)

Portfolio of high efficiency PV system solution integrates high performance solar modules/arrays, intelligence enabled controller & inverter sets, and mechanically weather-proof supportive racks, in optimizing system's routine operation and performance for long-term, stability and durability.

### Factors affecting power production

Energy output reaches its peak range - 70~80%

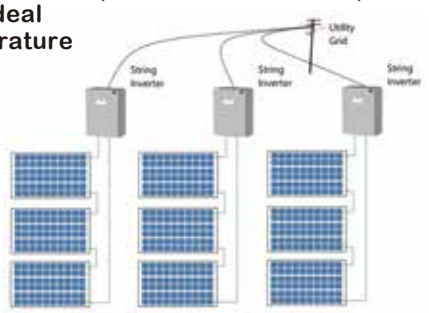
- 5-10% loss-inverter PFC affected
- 5-10% loss - dustfall or power transit route
- 6-12% loss - thermal rise

PV energy production as 100%

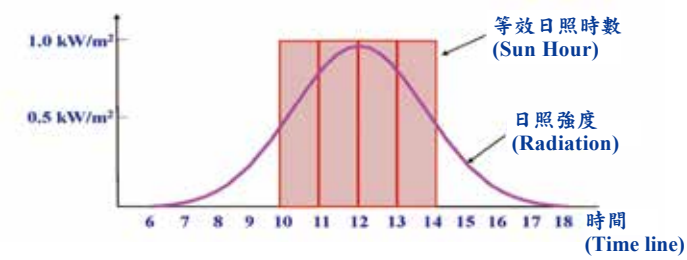
Combination factors:
a. Solar radiation varies according to geographic location, slanting rays, and local landscape.
b. Efficiency varies upon thermal loss
c. Energy conversion diminishes due for dustfall adhesion or loss over circuit transit routes
d. Conversion loss with inverter's PFC efficiency

## Installed Capacity of Units：W、kW、MW

Solar panel power output is expressed in units of watts (W), and represents the panel's theoretical power production under ideal sunlight and temperature conditions.



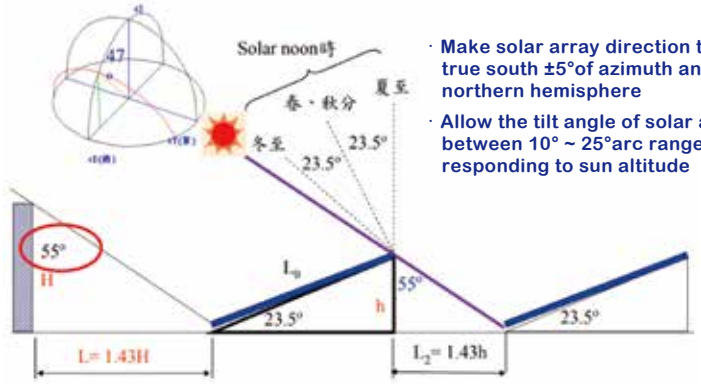

## How Much Energy Can 1kW Solar PV System Produce?




If you are getting 4 hours of direct sunlight averagely each day in a year, you can calculate it this way: 4 hours x 1,000 watts = 4,000 watts or 4 kilowatt hours (kWh). Thus this 1kW system would produce 1,460 kWh of energy per year (365 days based).

## Solar PV panel orientation and positioning

Set PV array properly oriented and positioned with regards to the direct sunlight, as it works best when absorbing surface is perpendicular to the incoming sun rays




- Make solar array direction towards true south ±5°of azimuth angle in the northern hemisphere
- Allow the tilt angle of solar array between 10° ~ 25°arc range upon responding to sun altitude

## Accelerating returns on capital investment by employing high efficiency PV system

Quick returns within 5 years (on the basis of 360-day * 4.5 sun hours, rewards earning NT$5 per kWh)

| watt | Capital Investment (NTD) | Power Generation Daily (kW) | Power Generation Yearly (kW) | Power Generation 5 Years (kW) | ROI over years |
|---|---|---|---|---|---|
| 70,000 | 2,617,457.50 | 315 | 113,400 | 567,000 | 4.6 |

★ The figures proposed here are for calculation reference without bringing environmental and economical factors into the full scope when programming PV system build-up.

★ Reference: 1kW PV system delivers 1,059 Kilos of CO2 emission reduction each year during its 20-year lifespan.

## Settway provides PV system of grid-tied、off-grid and hybrid types

## Opt for High Performance Solar Panel

Employing high performance panels gains cost effectiveness, i.e. panel counts reduced, complement parts less utilized, that achieves overall saving both in materials reduction and building area downsizing.

Nanometer texturing on panels works to dustproof and waterproof level, enables energy conversion in light rainy or cloudy days.

## Opt for Intelligence Enabled Inverter

It depends on inverter's characteristics resistance to achieve energy harvest effectiveness. Inverters utilize proprietary control circuitry in keeping maximal power generation available from the PV characteristic curve dynamics.

Maximum Power Point Tracking (MPPT) technology continuously adapts to track maximum power output.

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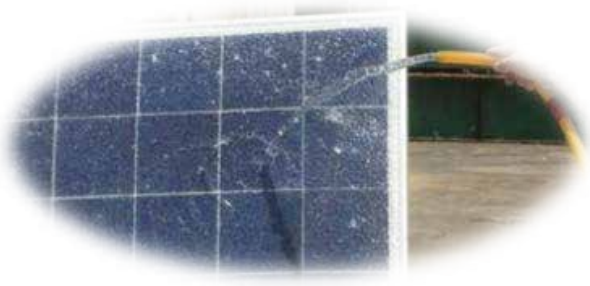
# Settway solar module goes to nanometer texturing technology

That better localizes light into the textured surface with 60% more light absorbent.

Nanometer texturing sheet works to water resistance, allowing energy conversion even in the rainy day.

Flexible Photovoltaic pattern is adopted to field constructions, like rooftop inclined plane, or column rise designs.



## Mono-Crystalline Photovoltaic Panel

## SETTWAY PV SERIES HiGHER KWH/KW


Cost-Effective & quality delivered

Win !

**20%** PREMIUM Power Production

Under dim light condition

**BETTER ENERGY HARVEST**
**MORE ELECTRICITY YIELD**

Over the same radiation

- Converting UV light into electricity at weak light, efficiency outperforms when exposed at indirect daylight
- Quality performance assured across product lifetime

**Leading-Edge Technology**

**Mono-Crystalline Solar Cell**

- Solar Cell Size: 6”
- 60 pcs Cell count
- Capacity falls below 0.7% per year to a minimum of 80% after 20 years

- Advanced water and dust proof level
- Resistance to salt corrosion and humidity
- Withstands strong mechanical load up to 5400Pa
- Easy and Low Maintenance need

**Robust Mechanical Design**

**System Cost Reduced**

- Power range 300/360 Wp
- Power area:1.632M$^2$
- Solar Conversion: 21.5~23%
- Standard Test Condi tion Irradiation: 1000 W/m² Temperature: 25°C

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