

**omina** INDUSTRIAL  
AUTOMATION

# NĂNG LƯỢNG MẶT TRỜI HÒA LƯỚI GRID-CONNECTED SOLAR



## REASON WHY YOU SHOULD GO SOLAR?



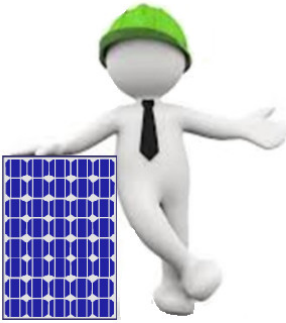
### **It will save you money...**

Using solar energy to power your home instead of solely relying on the electric company will help to reduce your electricity bills. Solar generation can even earn you revenue, depending on your local solar scheme.



### **It's a smart, long-term investment...**

Installing solar may enhance your property value and reduce the effect of rising electricity costs.



### **It just feels right...**

Lowering your carbon footprint by generating and using clean, renewable energy will contribute to a greener future.

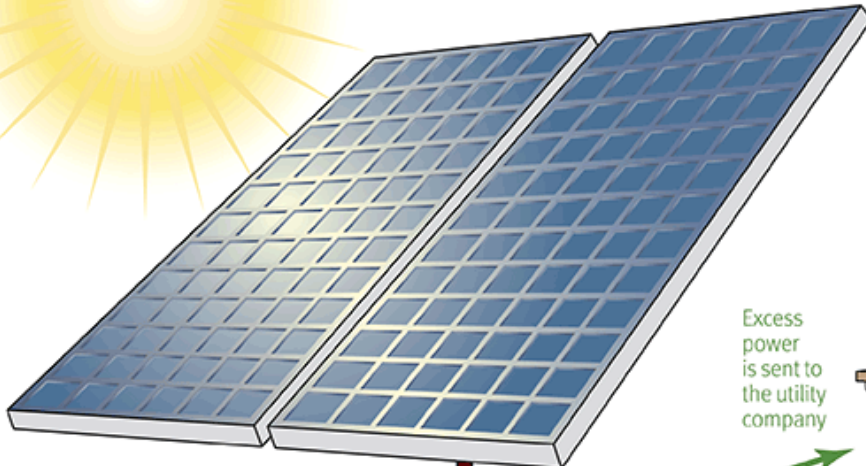
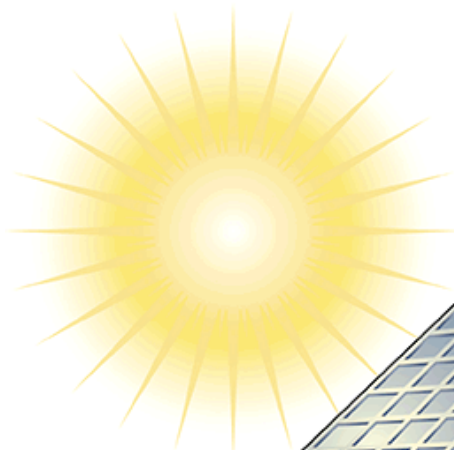
**Just imagine your future,** inexhaustible sunlight every day to safely power your home and increase your energy independence.

With solar technology more affordable than ever, **now is the time to go solar.**

# HOW DOES SOLAR ENERGY WORKS ?

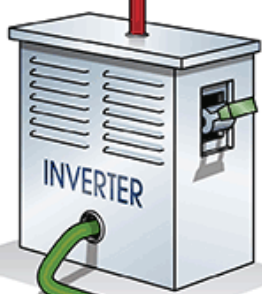
1

Sunlight falls on high capacity solar panels during daylight hours. The solar panels convert the sun's energy into Direct Current (DC) electricity which is sent to an inverter.



2

The inverter converts the Direct Current into Alternating Current (AC) electricity. This is sometimes called "conditioning" the power.



3

When the solar energy system produces more electricity than is needed during peak sun hours, excess electricity is automatically sent to the utility company and the electric meter actually runs backwards!

5

Utility power is continuously provided at night and during the day when demand exceeds solar production.

Excess power is sent to the utility company

To the local utility company

Power from the utility company when needed

4

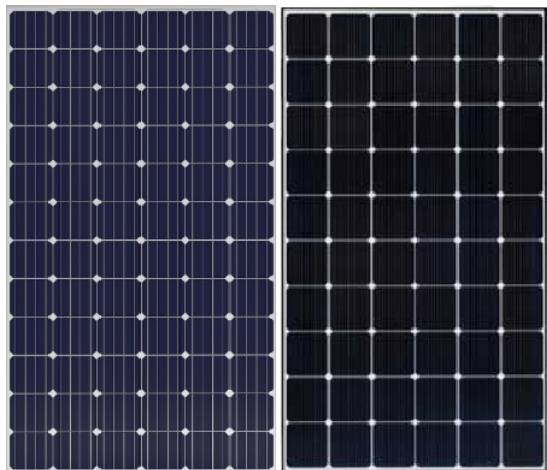
Solar energy systems produce very high quality electricity that reduces the chance of power fluctuations that could damage electronic equipment.

From 7/2019, The residual electricity generated by rooftop solar projects will be purchased by EVN (Electricity of Vietnam) with the power tariff is VND 1.943 per kWh and will be adjusted from time to time.

# Our integrated products and solutions

Make optimum use of solar and environmentally friendly energy, ensuring higher self-consumption and lower energy cost.

## SOLAR PANEL



## INVERTER



## CONFIGURATION AND CALCULATED VIA SOFTWARE



Report number: PV-50964-1712-4  
Issued: 26 December 2017 09:41 (UTC)

### 1. Site info

Site name: Hồ Chí Minh, Vietnam

Coordinates: **10° 49' 23.39" N, 106° 43' 8.47" E**  
Elevation a.s.l.: 1 m  
Slope inclination: 0°  
Slope azimuth: 45° northeast

Annual global in-plane irradiation: **1697 kWh/m<sup>2</sup>**  
Annual air temperature at 2 m: **27.0 °C**

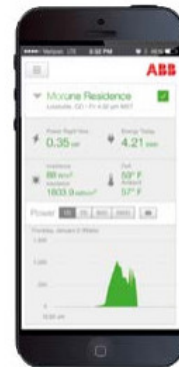
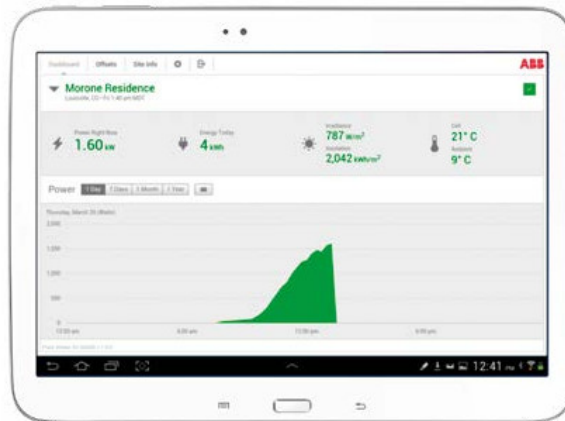
### 2. PV system info

Installed power: **6.4 kWp**  
Type of modules: **crystalline silicon (c-Si)**  
Mounting system: **fixed mounting, building integrated**  
Azimuth/inclination: **170° (south) / 37°**  
Inverter Euro eff.: 97.5%  
DC / AC losses: 5.5% / 1.5%  
Availability: 99.0%

Annual average electricity production: **7997 kWh**  
Average performance ratio: **73.4%**

## MORNITORING

To view energy production, management of inverters, loggers, combiners, weather stations and sensors used in a solar, troubleshoot and reporting tools...



BRING YOU WHAT FAST, FRIENDLY AND HIGH-RESPONSIVE WITH OUR PRODUCTS AND TECHNOLOGIES.

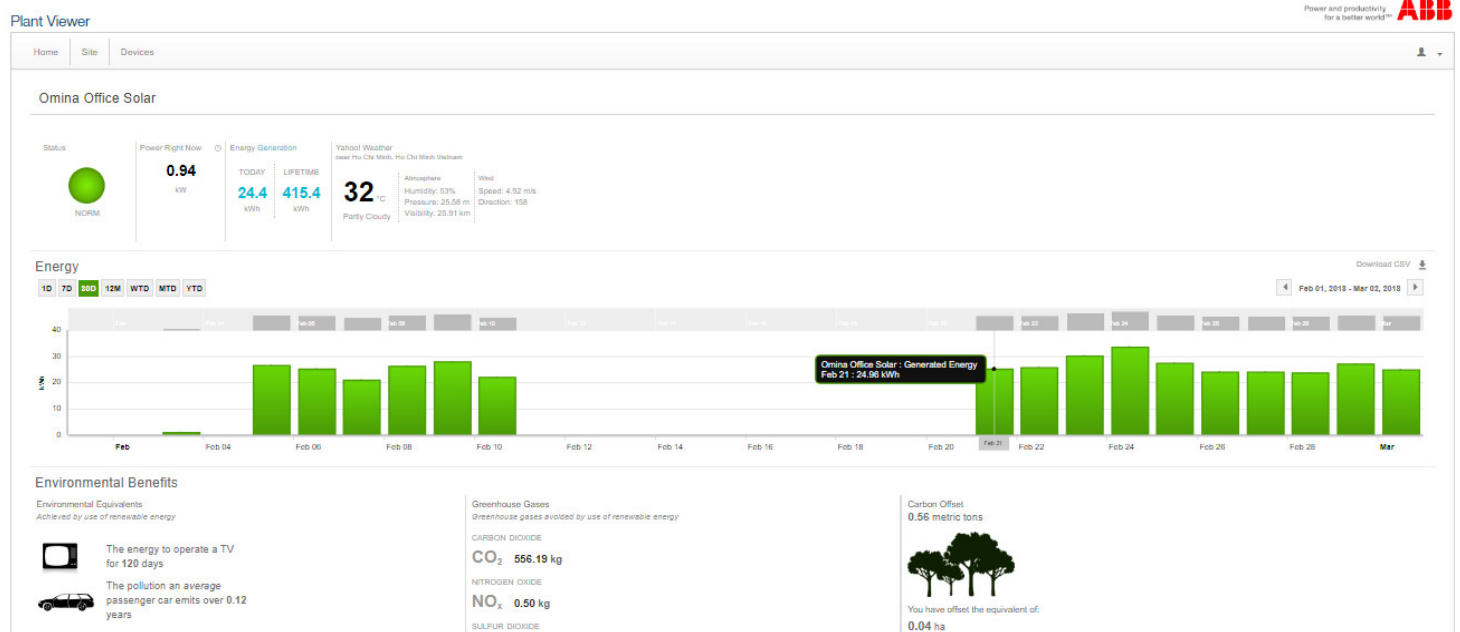


## REFERENCE PROJECTS

### 1. Omina Office: 5.8 kW



## REMOTE MONITORING VIA PC/SMART PHONE



Home | Site | Devices
👤

### Omina Office Solar

Status: ● NORM

Power Right Now: **3.78 kW**

Energy Generation

TODAY: **20.7 kWh**

LIFETIME: **411.7 kWh**

Yahoo! Weather  
Thu, Ho Chi Minh, Ho Chi Minh Vietnam

**33 °C**  
Partly Cloudy

Atmosphere: Humidity: 51%, Pressure: 25.60 m, Visibility: 25.91 km  
Wind: Speed: 3.13 m/s, Direction: 158

Power

7D | 30D | 12M | WTD | MTD | YTD

Feb 24, 2018 - Feb 24, 2018

Environmental Benefits

Environmental Equivalents  
Achieved by use of renewable energy

- The energy to operate a TV for 119 days
- The pollution an average passenger car emits over 0.12 years
- The energy to power 3.17 computers for 1 year

Greenhouse Gases  
Greenhouse gases evolved by use of renewable energy

CARBON DIOXIDE  
**CO<sub>2</sub> 551.25 kg**

NITROGEN OXIDE  
**NO<sub>x</sub> 0.50 kg**

SULFUR DIOXIDE  
**SO<sub>2</sub> 0.00 kg**

Carbon Offset  
**0.55 metric tons**

You have offset the equivalent of:  
**0.04 ha**

Typically one acre of pine forest will offset the equivalent of 4.89 metric tons of CO<sub>2</sub>

**MONITORING VIA SMART PHONE**

📶 4G 33% 16:32

**Dashboard** ABB

Omina Office Solar 🔄 ✓

Thu Duc, Ho Chi Minh • Fri 16:32 ICT

Power Right Now

**0.94 kW**

Energy Today

**24.81 kWh**

Power 1 Day ✉

Friday, March 2 (Watts)

Plant Viewer for Mobile v 1.3.4

📶 4G 33% 16:33

**Dashboard** ABB

Omina Office Solar 🔄 ✓

Thu Duc, Ho Chi Minh • Fri 16:32 ICT

Power Right Now

**0.94 kW**

Energy Today

**24.81 kWh**

Energy 1 Month ✉

Feb 1 - Mar 2 (kWh)

Plant Viewer for Mobile v 1.3.4

📶 4G 33% 16:32

**Offsets** ABB

Omina Office Solar 🔄 ✓

Offsets based on lifetime energy of 416 kWh

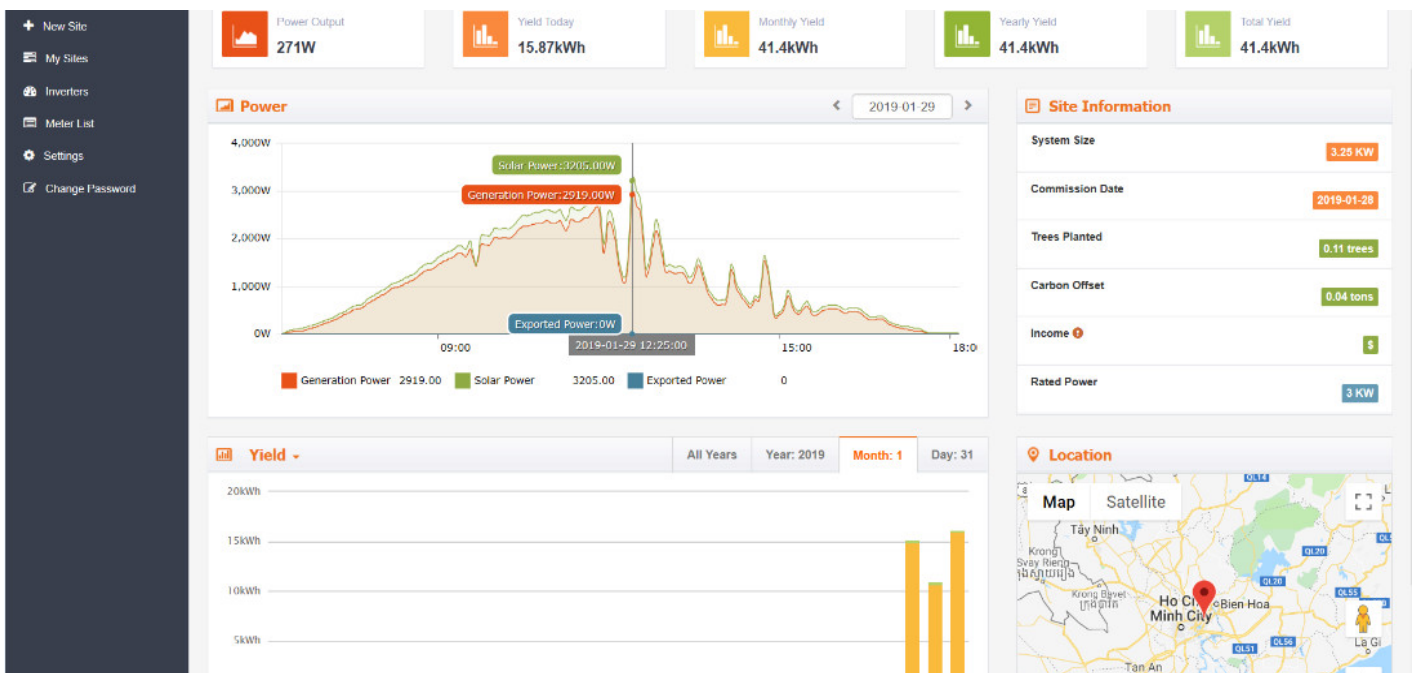
Equivalents

- Run a television for **120 days**
- Save the pollution an average car emits over **0.12 yrs**
- Computers powered for 1 year **3.20**

Greenhouse Gases

- CO<sub>2</sub>** Carbon Dioxide **1,227.30 lbs**
- NO<sub>x</sub>** Nitrogen Oxide **1.10 lbs**
- SO<sub>2</sub>** Sulfur Dioxide **0.00 lbs**

## 2. Household :







# **omina** INDUSTRIAL AUTOMATION

**OMINA INDUSTRIAL AUTOMATION J.S.C.**

**Address:** No. 88/4, Street No. 18, Quarter 3, Hiep Binh Chanh Ward,  
Thu Duc District, Ho Chi Minh City, S.R. Viet Nam

**Phone:** +84 28 3726 2981 (3 lines) **Email:** [inquiry@omina.com.vn](mailto:inquiry@omina.com.vn)

**Website:** [www.omina.com.vn](http://www.omina.com.vn)

