

24 AUG, 2025

Developing the nation with Solar power



Sunday Star, Malaysia

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Blessed with year-round sunshine, Malaysia receives up to 1,812 kWh of solar energy per square metre annually. Solar offers more than just clean energy, it is powering the nation's progress. From homes and schools to highways and hospitals, Malaysia is cutting carbon emissions, strengthening energy security, driving innovation, and lighting up communities. Solar power is central to the country's Environmental, Social and Governance (ESG) journey, paving the way for a fairer, greener and more advanced nation.

USAGE OF SOLAR POWER TECHNOLOGY

Airports

- KL International Airport has solar panels installed on the roof of Terminal 1's satellite buildings and parking canopy
- Photovoltaic (PV) solar power systems are available at Penang International Airport, Langkawi International Airport, Sultan Ahmad Shah Airport in Kuantan, Melaka International Airport and Kota Kinabalu International Airport

Hospitals

- Solar panels on rooftops of buildings and multi-level car parks for example, Hospital Canselor Tuanku Muhriz Kuala Lumpur

Parliament building

- One of the first parliament buildings in the world to be equipped with an LSS photovoltaic (PV) system
- Will generate up to 1.9 gigawatt (GW) of electricity annually
- Savings of up to RM1mil per year in electricity costs

Highways

- Seremban Rest and Recreation (R&R): Solar systems and rainwater for facilities at bathrooms and toilets
- Machap R&R in Johor: Solar systems on the rooftop of the main food court, walkways and covered bus parking bays

Agriculture

- Aquaculture: water pump, pond aerator, aquaponic system and grower tank
- Livestock: barn or farmhouse facilities (lighting, ventilation, monitoring system), water system and electric fence
- Crops: irrigation, greenhouse, lighting, water system and sensors

The Star graphics by Foo Chern Hwan, Muhd Hafeez & Tung Eng Hwa | Compiled by Shyafiq Dzulkifli & Razak Ahmad

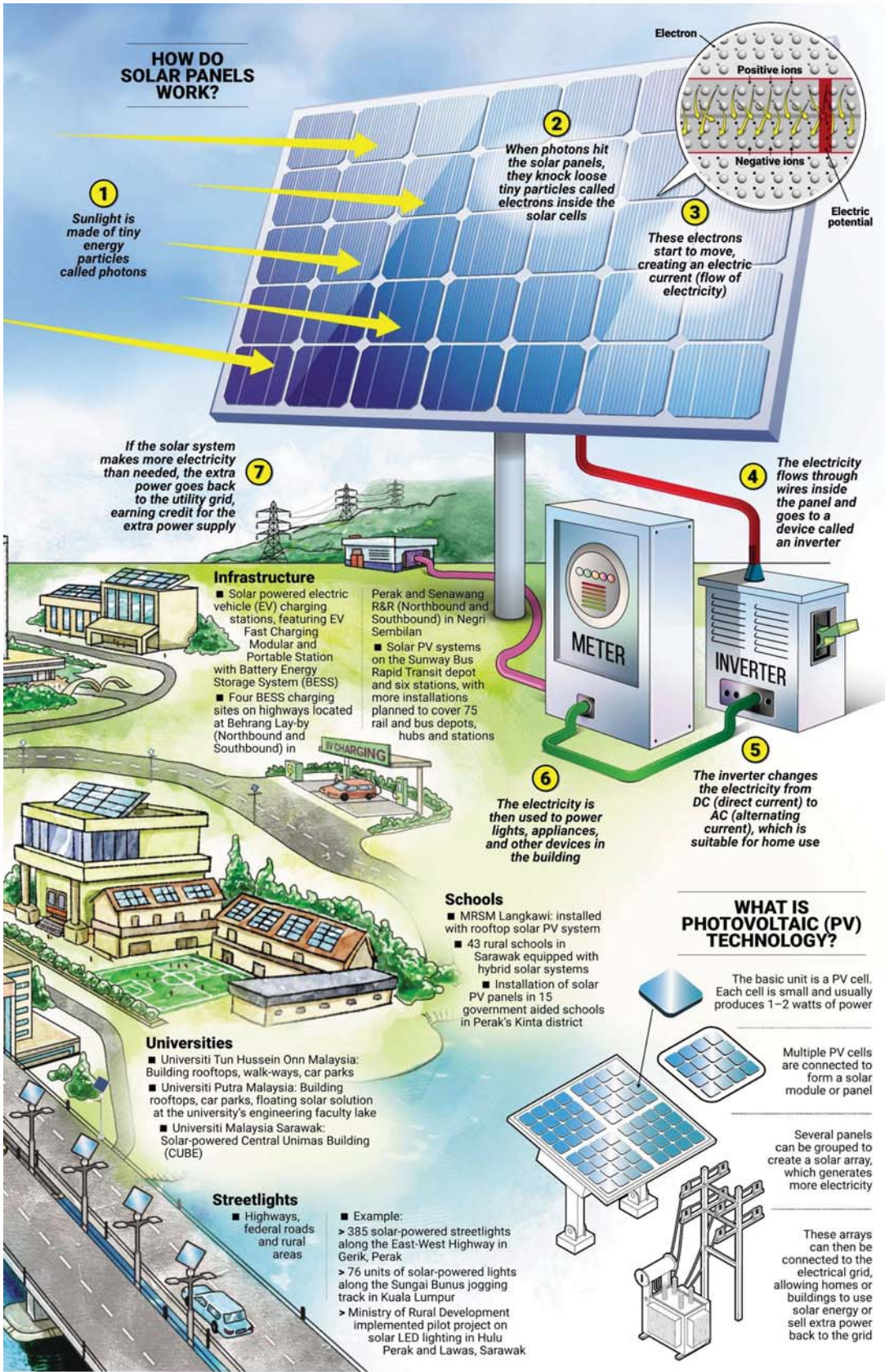
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SOLAR SOLUTION PROVIDER

TNB Solar (GSPARX)

Maxis Home Solar

TIME EmitSolar

Cost saving scenario by using solar power system

Small house (7.3 - 9.4kWp)

Average monthly electricity bill: RM500-RM600

Estimated monthly saving: RM110 - RM140

Medium house (9.9 - 12.4kWp)

Average monthly electricity bill: RM680 - RM1,000

Estimated monthly saving: RM150 - RM200

Large house (13-17.4kWp)

Average monthly electricity bill: RM1,050 - RM1,400

Estimated monthly saving: RM210 - RM280

kWp = kilowatt peak

It's a measure of the maximum power a solar panel (or a whole solar system) can produce under ideal conditions, usually in bright midday sun

GOVERNMENT KEY POLICIES

Malaysia's installed solar capacity (MW)

222

287

331

481

829

1,483

1,787

2,131

2,146

2,305

2015

2016

2017

2018

2019

2020

2021

2022

2023

2024

Source: Renewable Energy Statistics 2025, International Renewable Energy Agency (IRENA)

National Energy Transition Roadmap (NETR)

Key initiative in NETR: establish solar parks, promote floating solar and agrisolar

Solar power in the national projected installed power capacity mix:

Year	Share of solar power in national power capacity mix, gigawatt (GW)		
2025	12%	out of	46GW
2030	14%	out of	49GW
2035	25%	out of	56GW
2040	39%	out of	68GW
2045	52%	out of	82GW
2050	58%	out of	97GW

Net Energy Metering (NEM)

NEM 1.0 (Nov 2016)

500MW allocation to encourage Renewable Energy (RE) uptake

The electricity from solar panels is used first. Any excess energy will be exported to Tenaga Nasional Berhad (TNB). The credit for such excess energy will be used to offset part of the user's electricity bill

NEM 2.0 (Jan 2019)

500MW allocation

Excess solar energy generated exported back to the grid on a "one-on-one" offset basis

NEM 3.0 (Jan 2024)

2,500MW allocation

NEM Rakyat: 700MW

NEM GoME: 1,000MW

Net Offset Virtual Aggregation (NOVA): 1,700MW

Large Scale Solar (LSS) program

Competitive bidding programme to build LSS plants

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