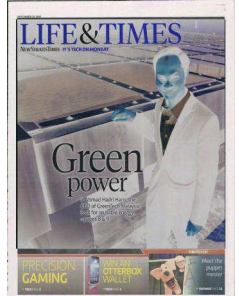


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# LIFE & TIMES

NEW STRAITS TIMES IT'S TECH ON MONDAY



## Green power

Ir Ahmad Hadri Haris, the  
CEO of GreenTech Malaysia,  
is all for reusable energy  
→ pages 8 & 9

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# Clean and sustainable



*Ahmad Hadri with the massive solar roof at GreenTech Malaysia office.*

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**W**ALK into the GreenTech Malaysia building in Bandar Baru Bangi, Selangor, and one immediately notices the different ambience. The main hall, offices, meeting rooms, library are lighted using natural reflective light from the sun, while the temperature is not hot despite the lack of air-conditioning. What it uses instead is green technology called slab cooling where the floor is cooled with chilled water.

Since it was built in 2006, the building has consumed very little fossil fuel with an energy index of 30 kilowatt hours per square metre (kWh/m<sup>2</sup>) per year compared to a typical conventional office building of 250 to 300 kWh/m<sup>2</sup> per year. That's about 90 per cent saving.

GreenTech Malaysia is currently one of the most energy-efficient buildings in the region and sets an example of how green buildings should look and feel like.

#### HARNESSING SUN POWER

With all year round sunlight, Malaysia is well positioned to harness solar power for renewable energy, particularly in view of depleting fossil fuel and rising energy prices. Today, much has been done to ensure that the people, industry and environment can benefit from green technology.

Formed to catalyse and drive the nation's green agenda, GreenTech Malaysia has started to initiate plans to transform and position the country as a hub for green technology.

You may not know it but we are the second largest country in the world for solar products with direct foreign investments worth more

than RM12 billion, creating 10,000 jobs. This is just one part of the green agenda and there are many aspects that will make the country a green hub.

The man with the experience and who can explain all aspects of renewable energy, from research, development and policy to industry and industry development, is GreenTech Malaysia CEO Ahmad Hadri Haris.

Involved in green initiatives since 1997, Ahmad Hadri says that for Malaysia to become a green technology hub, we need to focus on five inter-related areas — awareness, capacity development, market development, industry development, and policy and finance.

#### FOCUS AREAS

Initiatives like green technology adoption should start with a good awareness programme, and GreenTech is doing this via various approach like public engagements, events and exhibitions like IGEM (International Greentech & Eco Products Exhibition & Conference Malaysia), schools and universities, carnivals and building the GreenTech portal and database.

Awareness is just one part. Ahmad Hadri says skilled workers and professionals are needed to push the industry.

"We conduct training for skilled workers and professionals such as degree holders. We also conduct programmes in training schools and universities. This year we're appointed by Human Resource Ministry to develop Noss (National Occupational Skill Standard) on green technology," he says.

Then comes market development where green townships and low-carbon cities are established such as the on-going pilot project in Malacca

(Hang Tuah Jaya) and Miri.

"Green tech needs a market for the products. We create green township, green procurement, green label, certification — in this context we coordinate market development for green products with entities like Sirim and the Energy Commission," he says.

The MyHijau Directory ([www.greendirectory.my](http://www.greendirectory.my)) will help promote and encourage green products and green procurement in the market.

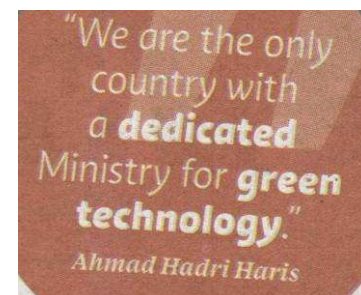
Industry development is another key aspect that has been pursued, says Ahmad Hadri, and over RM12 billion FDI has been achieved with foreign solar companies like First Solar, AUO Sun Power, Hanwa Q-Cells, Panasonic and more bringing in 10,000 jobs.

To top up all these, a good policy and finance scheme will further prosper the industry. Currently, 111 green-related projects with secured financing of RM1.5 billion, have been approved by 22 banks.

Ahmad Hadri says Malaysia is the only country with a dedicated Ministry for green technology.

Although awareness and commitment is still a challenge, he believes that the green path is bright.

"Together with agencies like Seda (Sustainable Energy Development Authority), we will make it easy for the people and industry to adopt green technology," he says.



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## How the solar systems work

INFOGRAPHIC: NST

There are three main components that work together to make a typical solar electric system.

### 1. SOLAR MODULES

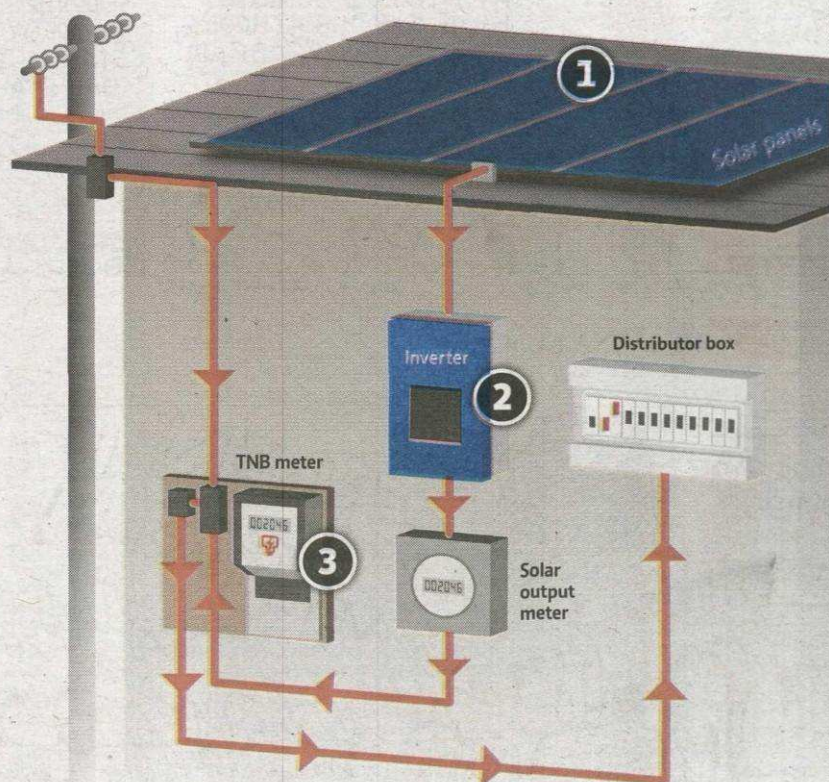
Sunlight falls on the modules, which contain silicon solar cells. The energy in the sunlight is absorbed by the cells and frees electrons which flow along array wiring. Electricity is the flow of electrons.

### 2. SOLAR INVERTER

The electric current made by the solar modules enters the inverter and is changed from direct current (DC) to alternating current (AC), the type of electricity used by homes and businesses.

### 3. ELECTRIC METER

An electric meter is a device that measures the amount of electricity supplied to or produced by a home. You already have an electric meter. After installing a solar electric system, your meter will measure the difference between the amounts of electricity used vs. the amount of electricity produced by you systems.



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## PRODUCE AND SELL ENERGY TO TNB

MALAYSIANS can play a big part in making the country a green hub and benefit from it.

One way is through the Feed-in Tariff (FiT) scheme, an initiative governed by the Sustainable Energy Development Authority (Seda) which allows home owners or companies to sell renewable energy generated to TNB at a premium rate. All they need to do is to apply to Seda ([www.seda.gov.my](http://www.seda.gov.my)) or via contractors to be part of the programme. One contractor offering solutions under the FiT scheme is Oval Ritz Technology Sdn Bhd ([www.homesolarmalaysia.com](http://www.homesolarmalaysia.com)).

Its director, Benjamin Loi, says investing in a home solar system for FiT is a sound long-term project.

"Internal rate of return from the investment can be as high as 17.5 per cent," he says.

The basic concept of FiT is that the Distribution Licensee (such as TNB) pays the Feed-in Approval Holder (Fiah or homeowner) a premium tariff for clean energy that is generated.

This allows Fiah to sell clean energy to Distribution Licensees for a fixed number of years. The Distribution Licensee will sign a Renewable Energy Power purchase Agreement with the Fiah.

"The exact duration will depend on the type of renewable resource used for power generation. For solar energy, it will be for 21 years," says Loi.

However, Fiah home owners still need to pay their electricity bills. As

*Loi (left) with Oval Ritz Technology director Hong Fan Chong.*



for the renewable energy generated by home owners, the Distribution Licensee will pay directly into the Fiah's bank account every month.

Loi says all landed properties, be it a terrace, semi-detach, bungalow, shop house, garage or an empty plot of land, can be installed with a solar system.

The investment will cost around RM8,500 to RM11,000 per kWp (kilowatts-peak) depending on the size for retrofitted system. An integrated system may cost 20 per cent more than the retrofitted system.

In terms of demand, Loi says awareness is on the rise two years after the implementation of FiT.

"Demand is very good and the quota for individuals for FiT implementation has been taken up. This is equivalent to a total capacity of 24.43 MW (megawatt) for individuals. For the last release of 1.5 MW in September 2013, the quota was taken up within one hour," he says.

Although the outlay may be high, banks like Alliance and Muamalat do offer financial assistance for interested home owners.

**Izwan Ismail**

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In general, users of the FiT scheme are positive about their experience.

**Wira Yusof, Seri Kembangan**

"Overall, I am very happy with my investment. I'm glad that I decided to do the FiT early and enjoy a better rate. I think the current scheme needs to be improved to attract more investors and interested parties. With the yearly reduction in FiT rate, I think investors will find it harder to justify the investment. As a critical player in the FiT scheme, TNB needs to manage its payment to FiT investors better."



**Harold Lean, USJ**

"The FiT system is great and the rate is attractive. It's a good investment and it pays off by itself. My choice of Solar PV hardware system (Solar PV and inverter) is high quality and has never failed."



**Kelvin and Laalitha Hunt, PJ**

"My wife and I are very happy to be playing our part in reducing carbon footprint and contributing to a greener environment as well as reaping good profits (average RM630 per month) from the investment. I wish TNB could send us the monthly statement and payment advice accordingly."

GreenTech Malaysia CEO Ahmad Hadri Haris tells **Izwan Ismail** how we can adopt renewable energy usage



The office and meeting rooms are lit using natural light.

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Homes with solar panels.

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