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Harnessing solar energy

The feed-in tariff scheme presents a win-win situation in harnessing the sun's rays on home rooftops for electricity generation with financial and environmental benefits for both homeowners and the nation

LUSH greenery and fresh air greet visitors to Siti Norizam Mohd Yusoff's bungalow in Taman Hillview, in Ulu Klang, Selangor. She relishes nature's blessings and does not mind that her house sits on a site just below the infamous Highland Towers. The retired stockbroker is also grateful for the abundance of sunlight that bathes her house and generates electricity using solar photovoltaic (PV) panels perched on her roof.

Siti Norizam is one of the pioneer participants of the country's feed-in tariff (FiT) scheme launched by the Sustainable Energy Development Authority, Malaysia (SEDA Malaysia) in 2011. She invested RM60,000 for a 4kWp solar PV system, comprising 16 panels of 25Wp modules, on the roof of her house to generate electricity that is fed into the national grid. The PV system was commissioned in July last year.

Tenaga Nasional Berhad (TNB) buys the electricity under a 21-year power purchase agreement. According to her contract, she is entitled to a payment of RM1.49 per kWh of electricity based on the 2012 FiT rates. Currently, domestic consumers are paying electricity tariffs that start at 21.8 sen per kWh for the first 200kWh, 33.4 sen for the next

100kWh, rising to 40 sen for the next 100kWh and higher for subsequent increases.

Siti Norizam says that many factors motivated her to become a solar power producer when she purchased the new house and was about to renovate it to accommodate her family of five children. A former schoolmate who is a solar PV service provider told her about the FiT scheme.

Siti Norizam and her husband were apprehensive at first. "We were worried about high maintenance costs and the need to replace the expensive solar panels after a few years," she says.

Her husband, who is in the construction business, and knows about solar PV panels, had decided against installing these panels in his commercial projects about seven years ago.

Getting the right information was crucial to changing their minds. Both husband and wife were convinced when her friend explained the technical details to them. The company assured them that maintenance cost was marginal and involved mainly cleaning the solar panels periodically.

Since the house was being renovated, Siti Norizam recalls it was easy to add a new feature. She was worried about placing the solar PV panels on a slanting roof and the service provider suggested the next best option was a flat patio-roof extension. This is a flat reinforced concrete roof that shades the back of the house and overlooks the swimming pool. The solar PV panels, inclined at a 15° angle, are fastened on a structural framework mounted on the roof. Cabling was not a problem since rewiring was also part of the house remodelling.

Siti Norizam acknowledges she is an environmentally-conscious person and harnessing the power of the sun makes logical sense to her. "Solar is clean and easier. Solar is manageable, and everybody can help to harness this energy. Compared to nuclear power, we don't have to worry about the dangers and waste," she says.

WIN-WIN

She is also empowered by her corpo-

rate experience to take a macro view on the energy equation and sees a win-win situation in the FiT scheme when there are lots of residential independent power producers (IPPs).

"It appeals to me because everyone can be an IPP since every house has a roof. Both parties win. You reduce your utility bill (via contra), and the government spends less on capital expenditure to build power plants. It is good for the country and good for us." Siti Norizam was the managing director of SJ Securities Sdn Bhd from 1990 to 1995, and also helmed the then Affin-UOB Securities from 1991 to 2001 before her retirement.

From her experience, Siti Norizam is impressed with the supply and installation of the solar PV panels on her house roof. However, there have been some hiccups. The commissioning of the solar PV system was delayed from March to July last year as the PV metre box had to be relocated for easier reading. It is now situated next to the TNB consumer metre box in front of her house. House owners under the FiT scheme still pay TNB for electricity consumed and metered. The electricity generated by the solar PV panels is metered separately. The PV metre started at zero and it read 1,148kW in early November.

Siti Norizam is happy that the price of solar PV panels has gone down since her own PV installation. "More Malaysians can join the FiT programme and more would be encouraged if there is an interest-free, easy payment scheme," she adds. She looks forward to reaping the rewards of her investment after eight years.

How to join the Solar Rooftop Programme

1. Contact 03-8870 5800 (Sustainable Energy Development Authority/SEDA Malaysia) or visit www.seda.gov.my
 2. The list of service providers or installers is available on the SEDA Malaysia website. They can advise you on the legal and technical requirements.
 3. The scheme allows installations of up to 12kWp. Most terrace house rooftops are big enough for a 4-5kWp system.
 4. Tariff and bonus are listed in the Renewable Energy Act 2011. There will be degression every year so get commissioned early to get the best rates. Once your tariff is fixed, you enjoy that rate for the next 21 years.
- Malaysia has committed to 5.5 per cent renewable energy by 2015, up from less than 1 per cent of the energy mix today. The Solar Rooftop Programme is your opportunity to support clean energy and help fight global warming.

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At a glance

PV panels specifications

16 Bosch monocrystalline modules
Grid connected

Peak power

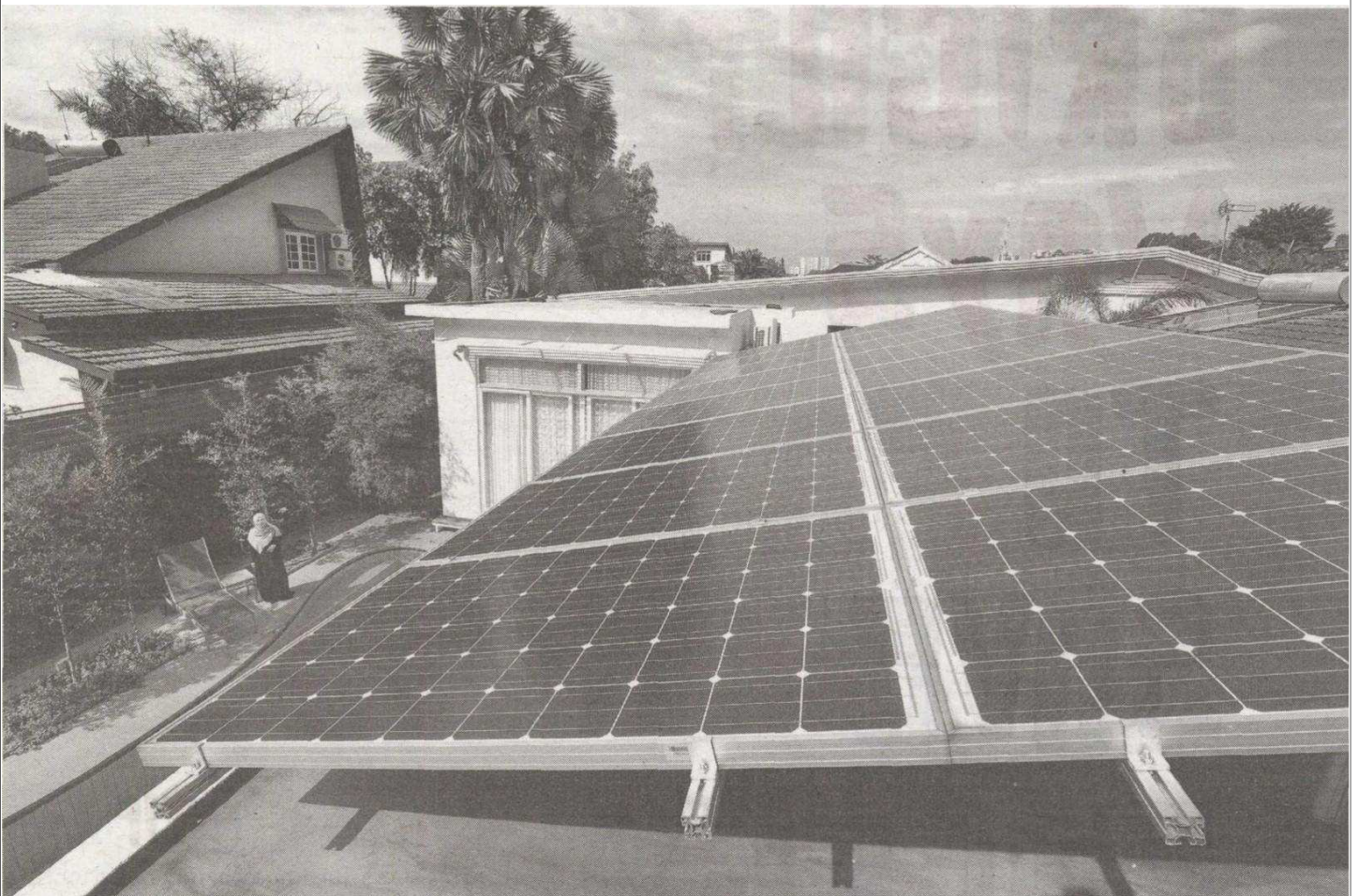
3.84kWp

Warranty

Structure of the PV panels: 2 years

Bosch PV panels: 25 years

SMA inverter: 5 years



The PV panels are inclined at a 15 degree angle and fastened on a structural framework mounted on the flat concrete roof that shades the back of the house and overlooks the swimming pool.

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