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How Johor community next to data centres is adapting to RE

The Malaysian Reserve, Malaysia



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ATOP the roof of the goat enclosure, where three goats could be seen munching placidly, sat a pico solar panel soaking up sun rays.

The ground was still soft from the morning rain and the planks, caked with dried mud, marked the path from the goat owner's house to the pen, a distance spanning about 100m. Here and there were oil palm trees, waiting to mature.

Ayob Attan, whose sister owns the goats and enclosure, pointed to the light. He told *Bernama* the pico solar-powered light, off-grid and wireless, suited their needs perfectly.

"It [goat pen] is far from the house; it's too far to bring the electricity there," he said. Despite the convenience and the savings of having regular solar-powered lighting, Ayob, a second-generation Federal Land Development Authority (Felda) settler, does not feel the need to take it any further.

His family is not the only one using pico solar panels in Felda Bukit Batu, less than 4km away from Sedenak Tech Park, which is Johor's biggest hyperscale data centre campus with access to renewable energy (RE) and solar panels.

A pico solar panel is a very small solar panel used mainly for off-grid lighting or phone charging.

A drive around Felda Bukit Batu found many pico solar panels affixed on roofs or pillars, but nary a regular rooftop solar panel that is grid-tied and can power an entire residential home.

The green revolution going on in Malaysia, encouraged by government initiatives and fuelled by the supply crisis in West Asia, seems to be passing by this village for the most part. And the residents are fine with it.

"It's not that we don't know about solar energy, we do. People here just don't think they need it," Ayob said.

As Malaysia advances its energy transition agenda, the government has introduced various initiatives to promote RE, particularly rooftop solar. The move is aimed at helping consumers lower their electricity costs while enhancing the country's energy security.

Barriers to Solar Power

Nevertheless, the disruptions at the Strait of Hormuz and the global oil supply shock are catching up with this community of 292 families, some of them spanning four generations.

A few residents admitted their July electricity bills showed a slight increase, but they feel their electricity costs are still manageable. As to why they are not keen on installing solar panels in their homes, most of them cited the cost of installation and maintenance.

The Solar Accelerated Transition Action Programme (Solar ATAP) roof-top solar initiative, introduced by the government in January 2026, helps remove the access barriers, such as quotas and financing. While homeowners can foot the upfront installation costs themselves, they also have the option of purchasing solar energy from companies registered with the Sustainable Energy Development Authority (SEDA), which cover the cost of installing and maintaining the solar panels.



Established in 1964, many of the homes in Felda Bukit Batu are old, thus the roofs may not be strong enough for rooftop solar



Sedenak Tech Park is Johor's biggest hyperscale data centre campus with access to RE and solar panels



Solar ATAP roof-top solar initiative helps remove access barriers, such as quotas and financing

"We come in and install the solar [panels] on top of the building [or house]. Now you have two suppliers of energy: TNB [Tenaga Nasional Bhd] and us. So we sell the energy produced by the solar [panels] to you at a cheaper rate than TNB," explained Cyberjaya-based Green Xperts GM Fitri Isahak.

He added that homeowners can sell any unused solar energy purchased from the solar company to TNB.

But in Felda Bukit Batu, the houses there are the real barrier. Established in 1964, many of the homes are old, and so are the roofs. The neighbourhood looks like a typical upper-lower income to lower middle-class area, with wooden houses interspersed with brick houses.

SEDA COO Koh Keng Sen said the roof is a crucial part of the government initiative.

"Solar ATAP is a rooftop [solar] programme. So it makes sense to know that before you install the solar solution, you have to make sure your roof is strong enough," he told *Bernama* in an interview in the lead-up to the Seventh International Sustainable Energy Summit in Kuala Lumpur (KL) on Aug 11 and 12.

He added that the conference, which will bring policymakers, investors, NGOs and other experts together, will be addressing energy transition for less-privileged communities, among other issues.

Felda Bukit Batu manager Mohd Hafiz Mahmood, who is trying to encourage

villagers to adopt solar power, told *Bernama* that many of the roofs contain asbestos and the cost of upgrading the roofs is beyond the financial means of many of the residents.

A solution he is exploring with the Johor Land Group (JLG), which owns Sedenak Tech Park, is the possibility of opening a community-based solar farm within Felda land to provide for the community, as well as the data centres.

"Maybe if there is supply in one area, for example, an open area like this, it [solar panels] can be installed, [and the power] channelled to the houses," he said.

Bernama contacted JLG but did not receive any comment by press time.

Despite the challenges, Mohd Hafiz thinks the villagers need to make the switch sooner or later.

"I see a need for [solar power] because our weather is getting hotter. Whatever device we need, like air-conditioning, all of that uses electricity," he said.

Many of the residents remain unconvinced. When asked, they told *Bernama* that they did not need to switch to solar as they did not have air-conditioning at home or use it often enough to warrant a switch.

Rather than switching to RE, residents prefer other ways to navigate the supply crisis.

Adaptation

Widower Kamarulzaman Abd Rahman, 57, does not want or need solar panels on his roof

to cool his home, which he shares with his children and grandchildren.

Instead, he has wind funnels on his roof, which work by sucking the hot air in the house and dispersing it outside.

Sitting on his porch, he told *Bernama* his son decided to install the wind funnels during the Covid-19 pandemic.

"It was hot here. But after fixing it [wind funnels], it's a little bit okay, I feel," he said.

Since wind funnel technology provides the cooling effect without using much electricity, Kamarulzaman was pleased to discover his electricity bill did not go up much after installing wind funnels. He also felt confident about installing an air conditioner in his home for the first time.

"I don't want solar. The cost is high," he said.

Kamarulzaman is likely the only person to have wind funnels at Felda Bukit Batu, which attracts more curiosity than adopters of the technology.

Meanwhile, Felda staff Izzatiyana Ismail's solution to the supply crisis is her electric motorcycle. These days in Felda Bukit Batu, residents see rather than hear 34-year-old Izzatiyana, or Yana for short, when she rides her motorcycle.

Bought on an impulse almost a year ago and aided by a government rebate of about RM2,000 on electric vehicles (EVs), she considers the EV a worthwhile investment. When her friends and family complain about the rising fuel prices, she would commiserate but not partake.

"I don't have to worry about it [fuel price]," she told *Bernama* with a laugh as she plotted the motorbike silently in the parking lot of the Felda office.

"When they [residents] ask me, 'Eh, why aren't you worried?', I tell them, 'Look at what kind of motorcycle I'm riding.'"

Living and working in a Felda plantation often means travelling long distances. In this part of Johor especially, where oil palm trees hug the roads along long stretches, the nearest town can be 20km to 30km away. While there is less traffic to contend with on a daily basis, any increase in petrol prices can be daunting for people like Yana, who used to commute in her car daily from Felda Ayer Itam, where she used to live.

Moving to Felda Bukit Batu helped ease her fuel woes. Buying the EV removed her worries altogether.

She added: "We don't need petrol when using an EV. In Felda [settlements], it's sometimes hard to find a petrol station...it is far."

The nearest petrol station to Felda Bukit Batu is almost 5km away in Pekan Bukit Batu, close to Kelapa Sawit town.

Although using solar power to charge her e-motorcycle was almost free, Yana is not worried about the cost of charging her EV using conventional electricity. She said the savings on fuel have more than paid for any price increase due to the global supply crisis.

She is excited about the opening of the Sedenak Tech Park, saying she hopes it will bring in more RE options. She is entertaining the idea of buying a Proton e.MAS but prefers to wait for an EV charging station to open nearby.

"Our community here is getting bigger. I hope we will get one," she said. — *Bernama*



Bought with the aid of govt rebate of about RM2,000 on EVs, Yana considers her electric motorcycle a worthwhile investment