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Seda reviewing future rollout of subsidised green energy projects

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Amid rising electricity tariffs and green energy demand, there has been huge interest in the quota for large-scale solar (LSS) and rooftop solar projects. However, the Feed-in Tariff (FIT) programme, through which the government awards quota for other non-conventional renewable energy (RE) sources such as biogas, biomass and small hydro power, is not highlighted often enough.

The FIT quota awarded by the Sustainable Energy Development Authority (Seda) in the last three years amounted to 555MW across the three non-conventional RE sources. (Since 2018, the new quota for rooftop solar projects has been placed under Net Energy Metering (NEM) scheme. More on this later.)

This year, Seda, an agency under the Ministry of Energy Transition and Public Utilities (Petra), has paused new FIT awards after years of annual quota announcements, the last being 36.5MW in 2023 comprising 21 biogas projects and one for biomass.

According to Seda CEO Datuk Hamzah Hussin, the agency is undertaking a review to ensure participants of the programme, which was introduced in 2011 to encourage adoption of unconventional RE, do not take it for granted. This is because it is less strict in its conditions compared to other power plant project awards.

"Some are asking why not put the LAD (liquidated ascertained damages) clause in the FIT programme [for project delays]? It is called 'tarif galakan' (incentivised tariff). It is to menggalakkan (encourage) people to come into this business. We cannot punish; maybe [it is] a bit less strict with the regulation," Hamzah tells *The Edge* in an interview.

"But, now, we are in the process of amending the [Renewable Energy] Act [2011], such as the grey areas being used by companies to delay their projects [in hand]."

Hamzah, who has been CEO since February 2021, hints at a new FIT quota bidding process, where participants can bid only "within a certain range" to address instances of bidding below costs to win quota.

"To win, everyone was bidding at the lowest tariffs. Whether [that represents] a real reduction of costs, or simply because they wanted to win the bids, [we are not sure]."

"We also want to make the FIT attractive to the banks; we would like to control the bidding process," he says. "We are looking into a range of tariffs that is actually financeable and makes the project viable."

The agency is hopeful of providing more clarity on the new FIT mechanism ahead of the release of a new quota in 2025, he adds. Awards for the 2023 quota, which was closed for bidding in July, were announced in January this year.

Competitive bidding is not necessarily effective

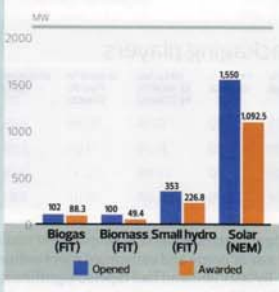
FIT awards, like the LSS awards facilitated by the Energy Commission, involve reverse bidding by interested companies, which compete based on whose proposed tariffs are lower.

In Malaysia, the three RE sources (biogas, biomass and small hydro) are less mature than solar, and thus involve higher execution risk.

To attract participation, FIT tariffs for the three RE sources are typically higher than conventional RE installations. For example, approved FIT tariffs from 2021 to 2023 ranged between 22.5 sen/kWh and 28.15 sen/kWh. This compares with LSS's tariffs of between 17.68 sen/kWh and 24.81 sen/kWh.

The higher tariffs under the FIT are subsidised by monies in the Renewable Energy

Seda NEM and FIT quotas (2021-2023)



FIT tariff floor has climbed in last three years

TYPE	YEAR	TARIFF (SEN/KWH)	
		LOWEST	HIGHEST
Biogas	2021	24.00	25.15
	2022	23.35	27.15
	2023	25.11	28.14
Biomass	2021	23.50	29.00
	2022	27.01	27.80
	2023	28.00	28.00
Small hydro	2021	22.49	26.50
	2022	22.98	24.00

Fund, which is collected from electricity consumers at a rate of 16% of a monthly bill (except for households consuming less than 300kWh a month).

Still, there are instances of underbidding, says Hamzah, which puts project sustainability at risk and contributes to other problems such as obtaining financing.

"It is very tough to get financing for RE projects save for solar," Hamzah says. "Development banks [do support] but less so commercial banks. Only after the commercial operation date (COD) will [the commercial banks] come in to offer better rates."

Nonetheless, he does not blame the banks, as returns are less attractive. One could look, however, at markets such as Australia, which has dedicated government agencies to fund different stages of RE companies and projects. For example, the Clean Energy Finance Corp, which has US\$30.5 billion (RM95.1 billion) in investment capital from the Australian government, works with commercial banks to facilitate funding while helping them familiarise themselves with lending to non-traditional RE projects.

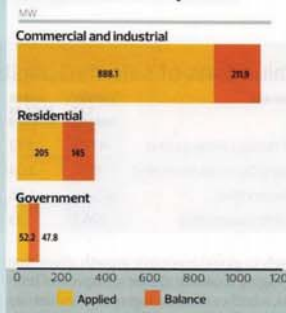
In Malaysia, for example, the water sector is funded by Pengurusan Aset Air Bhd (PAAB) for water infrastructure projects, with a concession or payback period of up to 40 years.

"PAAB raises sukuk for the funding; we can have the same thing [for RE]," says Hamzah. Meanwhile, the accommodative FIT mechanism attracted participation among those who are less serious. Project delays are not often penalised and, sometimes, the quotas change hands.

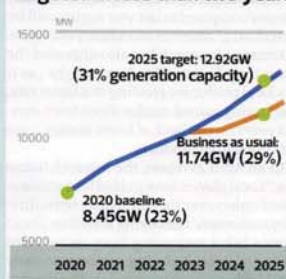
"There are companies who like to participate in the bidding process, but are not serious enough to develop the plant," Hamzah says.

"They just want to show [the presence of] RE projects in their book. They announce that they win bids [under the FIT programme] that will give them new revenue over 21 years. But

Total NEM 3.0 quota



12.9GW of RE capacity targeted in less than two years



Note: Capacity includes large hydro; Malaysia's RE capacity stood at 10.41GW, former de facto energy minister Nik Nazmi Nik Ahmad reportedly said in October 2023

what happened to the projects?"

As such, he adds, Seda is now studying the bidders for new awards, including the parties behind them. "We have to determine whether they are real players."

Low-hanging fruit in rooftop solar

Besides the FIT, Seda also oversees Net Energy Metering (NEM) scheme, which allows consumers to install a solar system in their homes for their own use and sell excess electricity generated to the grid.

The NEM programme was introduced in 2016 with a quota allocation of 500mw up to 2020. Seda continues to refine the NEM programme, with the introduction of NEM 2.0 in 2019 marking a significant shift and allowing net metering with one-on-one energy export and offset.

Owing to overwhelming response, the rooftop solar programme was further extended under NEM 3.0 with 1550MW, with 350MW for households, 1,100MW for commercial and industrial, and the remaining 100MW for government agencies.

The government is now exploring the rooftop leasing model under the National Energy Transition Roadmap (NETR), which will allow homeowners to lease out their rooftop in return for income.

"It's the same — companies lease out land to those companies that want to build ground-mounted solar. What's the difference? You move from land to rooftop," Hamzah says.

It is worth noting that under the NEM programme, the current approach to residential rooftop solar requires users to fork out a huge capital expenditure (capex). Capex for a 4.5kWp residential rooftop solar system starts around RM20,000 to offset just a few hundred ringgit in one's monthly electricity bill.

This is why rooftop solar has not taken

off in Malaysia in a big way, despite its tropical climate with sunshine all-year round.

According to Seda's Malaysian Renewable Energy Roadmap (MyRER), the country has a 269GW potential for solar PV, dominated by ground-mounted configurations (210GW) and including considerable potential from rooftop (42GW) and floating configurations (17GW).

With rooftop leasing, Hamzah says, homeowners do not need to fork out capital to install solar panels; and, for developers, a house with rooftop solar means a cheaper electricity bill and it is more efficient to install solar panels while building homes.

He points out that one successful model that can be emulated is the rooftop leasing programme in Kerala, India, that helps homeowners generate income and expedite the RE installation rather than just depending on LSS projects.

"That project helped overcome poverty in Kerala. It is also like what we did with the MySuria programme, where we give people solar panels to be installed on their rooftop and, in return, they get cash every month," Hamzah says, referring to the government programme introduced in 2016 that involved 21 families, most of whom were rubber tappers. Under the programme, each home is installed with 3kW solar panels for free; the electricity produced is sold to the grid for 10 years. In return, each household gets RM250 per month.

'Premium product' RE should not be cheap

To be sure, solar installations took seven years to "graduate" to the current NEM one-to-one offset model in 2018. Hamzah thinks it will still be a while before any of the three non-RE sources see the adoption level enjoyed by the solar segment.

Fewer FIT quota have been awarded compared to 2021, when more than 90% of the available quota for biogas, biomass and hydro was given out; in 2023, just 74% of the biogas quota was awarded, 17.5% for biomass and none for hydro.

"Of course, it's a challenge [to execute RE projects]. That's why when people ask me about delayed projects, I say, 'If it were easy, we wouldn't need the FIT,'" says Hamzah.

That is also why he believes Seda's role in growing RE adoption does not get with the push for lower tariffs for the unconventional sources currently being explored. They include geothermal (with potential in Tawau, Sabah and parts of Perak) and low-speed wind (in Kudat, Sabah, and in Putrajaya, where a pilot project by Perbadanan Putrajaya is taking place).

Further, solar is cheap only when it excludes intermittency costs such as battery storage. Taking that into account, the plant also needs to be bigger to charge the batteries, as it operates at peak capacity for only about four hours a day.

Notably, the tariff floor for FIT programmes has in fact risen from 2021 levels (see table).

"We relooked at our policy last year ... The FIT's initial objective is to develop the industry. If we keep looking to approve quota only for resources that can offer the lowest tariffs, then we are not helping other resources develop new technology. There's no way wind, geothermal can come into the picture," Hamzah says.

"Electricity produced from RE are premium goods. Premium products shouldn't be cheap. I'm keeping a close watch on the tariffs dropping so fast [across numerous RE awards], because RE power plant development is costly."