LHAG Insights

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Welcoming New Rooftop Solar Initiatives — Net Energy Metering 3.0

In an effort to boost usage of solar energy and reduce energy cost, the Ministry of Energy and Natural Resources introduced the new Net Energy Metering 3.0 programme (**NEM 3.0**), which will be in effect from 2021 to 2023 with a total quota allocation of up to 500MW. The quota is assigned through a trilogy of initiatives.

Initiative	Quota allocation	Application period	Consumers
NEM Rakyat Programme	100MW	1 February 2021 – 31 December 2023	Residential users
NEM GoMEn Programme	100MW	1 February 2021 – 31 December 2023	Government ministries and entities
NEM NOVA Programme (Net Offset Virtual Aggregation)	300MW	1 April 2021 – 31 December 2023	Commercial and industrial users

The Energy Commission of Malaysia has published guidelines which set out the framework and requirements for the operation of the three initiatives. A summary of some key features is set out below.

Eligibility criteria

Owner or occupier of a premise who is supplied or required to be supplied with electricity by Tenaga Nasional Berhad (**TNB**). A person who has installed a solar photovoltaic installation under the previous solar photovoltaic programme (**NEM 2.0**) is not eligible to participate.

Type of installation allowed

Photovoltaic panels mounted on the rooftop of the building within the same premises supplied with electricity by TNB, in contrast with the NEM 2.0 where installations on car parks or the ground was considered.

Application procedure and timeline

An application for any of the initiatives shall be on a first-come, first-served basis and made to the Sustainable Energy Development Authority (**SEDA**). A fee of RM10/kW will be charged for an application. Upon approval, the installation of the panels must take place within three months from the date of notification of such approval.

Capacity limit of the installation

NEM Rakyat	For single-phase system: Not more than 4 kW For three phase system: Not more than 10 kW
NEM GoMEn	Maximum capacity of 1,000kW and subject to the following conditions: (A) For medium-voltage consumers: Not exceeding 75% of Maximum Demand,[1] based on: (i) the average of the recorded Maximum Demand of the past 12 months; or (ii) the declared Maximum Demand for consumers with less than one year record. (B) For low-voltage consumers: Not exceeding 60% of fuse rating (for direct meters) or 60% of the current transformer rating of the metering current transformers.
NEM NOVA	Category A: Maximum capacity of 1,000kW subject to the same conditions as stipulated for NEM GoMEn above. Category B: Maximum capacity of 5,000kW subject to the following conditions: (A) Maximum capacity of the inverter output of the installation shall not be more than 100% of Maximum Demand, based on: (i) the average of the recorded Maximum Demand of the past 12 months; or (ii) the declared Maximum Demand for consumers with less than one year record. (B) For low-voltage consumers: Not exceeding 60% of fuse rating (for direct meters) or 60% of the current transformer rating of the metering current transformers.

[1] "Maximum Demand" means twice the largest number of kilowatt-hours used during any consecutive 30 minutes in a month.

Offsetting electricity bills under NEM Rakyat and NEM GoMEn

Similar to the NEM 2.0, any excess electricity generated by a consumer's installation which is not consumed may be exported to the grid. The consumer will subsequently receive credits for the exported energy and may use such credits to offset part of the electricity bill for electricity supplied by TNB during a period of 10 years from commencement of the contract with TNB. This will be a "one-on-one" offset mechanism which allows every kWh exported to the grid to offset against each kWh consumed from the grid. The consumer is allowed to rollover any excess energy generated for every 12 months. After 10 years, the installation will be strictly for self-consumption and no offset or rollover will be allowed nor any excess energy be exported.

Offsetting electricity bills under NEM NOVA Programme

Exporting excess energy under the NEM NOVA programme is also limited to 10 years and can be divided into the two following options:

Category A (*Offset*)

Excess electricity generated in a month which is not consumed may be exported to the grid. The consumer will subsequently receive credits for the exported energy and may use such credits to offset part of the electricity bill, excluding the minimum monthly charge as stated in the tariff schedule, for electricity supplied by TNB for the next billing period. The unit price of the energy exported shall be based on the Average SMP.[2] The offset has to be exercised in the next billing period, failing which the credits will be forfeited.

Category B (*Offset and virtual aggregation*)

Excess energy generated in a month which is not consumed may be exported to a maximum of three designated premises. The designated premises must be one other than where the solar photovoltaic installation is installed and designated in the application for the NEM NOVA programme.

Such premises may include one that is used or operated by a wholly owned subsidiary of the applicant. The value of the exported energy will be credited to the account of the designated premises to be used to offset the electricity bill, excluding the minimum monthly charge as stated in the tariff schedule, for electricity supplied by TNB for the next billing period. The priority for the aggregation of the credits to the designated premises' accounts will be as determined by the applicant in its application.

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[2] "Average SMP" means the monthly average system marginal price for the daily period between 0700 and 1900 hours in the preceding month which will be published by a TNB department that is authorised to conduct electricity planning and manage electricity procurement for Peninsular Malaysia on its website no later than the 14th day of every month.

Similar to Category A, the unit price of the energy exported shall be based on the Average SMP.

Switching categories

Switching from one category to another category is prohibited unless the consumer has been on either category for more than 12 months, and the consumer has applied to TNB three months in advance in relation to the switch.

Section 9 licensing

It should be noted that a licence is required under s 9 of the Electricity Supply Act 1990 for any person to use, work or operate any installation designed for the use and/or supply of electricity. However, such licence is only necessary, in relation to solar photovoltaic installations, if the installation is above 24kWp for a single-phase system or above 72kWp for a three-phase system. Residential users participating in the NEM Rakyat will not be required to obtain the licence considering that the maximum capacity of an installation under the NEM Rakyat is capped below 24kWp. Nevertheless, the licence requirement would apply to consumers under NEM GoMEn and NEM NOVA with installations that are above the stipulated capacities.

Any person exempted from the licensing requirements, including consumers under NEM Rakyat, shall complete a form for their exemption no later than 28 days after receiving notification of the approval of their application by TNB.

The "Guidelines on Licensing Under Section 9 of the Electricity Supply Act 1990" can be viewed here.

Thoughts

Solar energy generation is set to continue to be the emphasis of Malaysia's renewable energy plans with the implementation of NEM 3.0. The unique concept of virtual aggregation under NEM Nova provides non-domestic consumers the avenue to obtain and utilise credits even for premises that are not generating energy which would then help to lower operating costs. Interested commercial and industrial users should apply quickly, given that the quota allocation for commercial and industrial use is 300MW, which means it would likely take a mere several months before the quota will be exhausted.

Further details in relation to the NEM Rakyat and NEM GoMEn programmes are stipulated under the "Guidelines for Solar Photovoltaic Installation Under the Programme of NEM Rakyat and NEM GoMEn in Peninsular Malaysia", which can be viewed here.

Similarly, the NEM NOVA programme details are further described in the "Guidelines for Solar Photovoltaic Installation Under Net Offset Virtual Aggregations (NOVA) Programme for Peninsular Malaysia", which can be viewed here.

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