



LEGAL UPDATES ON THE SOLAR ENERGY INDUSTRY IN MALAYSIA

Introduction

In an effort to pave the way towards a more sustainable and green future, the Government of Malaysia (“**Government**”) in 2018 announced a target for the country to increase renewable energy in its energy generation mix to twenty percent (20%) by the year 2025. In carrying out this agenda, one of the key renewable energy sources focused on by the Government is solar energy. In this article, we explore the regulatory framework and the developments surrounding the solar energy industry in Malaysia.

Relevant Legislations

The main statutory legislations that govern the renewable energy sector in Malaysia are as follows:

- **Electricity Supply Act 1990** which regulates, amongst others, the electricity supply industry;
- **Energy Commission Act 2001** which provides for the establishment of the Energy Commission of Malaysia;
- **Renewable Energy Act 2011** which provides for the establishment and implementation of a special tariff system to catalyse the generation of renewable energy and to provide for related matters; and
- **Sustainable Energy Development Authority Act 2011 (“SEDA Act”)** which provides for the establishment of the Sustainable Energy Development Authority Malaysia and to provide for its functions and powers and for related matters.

Relevant Authorities

The authorities and bodies involved in the regulation of the renewable energy industry in Malaysia are:

- **Ministry of Science, Technology and Innovation ("MOSTI")** – Following the 14th General Election, the entire component of MOSTI, the energy and green technology components of the Ministry of Energy, Green Technology and Water ("KeTTHA") and the related components of Environment and Climate Change from the Ministry of Natural Resources and Environment ("NRE") were restructured and formed the Ministry of Energy, Science, Technology, Environment & Climate Change ("MESTECC"). Following the formation of the new Cabinet on 9th March 2020, MESTECC has been restructured and its name has been changed to MOSTI.
- **Energy Commission of Malaysia ("EC")** – EC is a statutory body responsible for regulating the energy sector in Peninsular Malaysia and Sabah with powers to regulate the energy supply activities in Malaysia.
- **Sustainable Energy Development Authority Malaysia ("SEDA")** – SEDA is a statutory body established pursuant to the SEDA Act. SEDA's functions include promoting and implementing national policy objectives for renewable energy and promoting, facilitating and developing sustainable energy.

Renewable Energy Policies

The main government policies driving the growth of the renewable energy sector are:

- **National Renewable Energy Policy ("National RE Policy")** – The National RE Policy was approved by the Cabinet in 2010 with the objectives of increasing the renewable energy contribution in the generation mix, facilitating growth of the renewable energy industry, ensuring reasonable renewable energy generation costs, conserving the environment for future generation and enhancing awareness on the role and importance of renewable energy.[1]
- **Malaysia Energy Supply Industry 2.0 ("MESI 2.0")** – In September 2019, the Cabinet approved MESI 2.0, a 10-year masterplan to transform and liberalise the energy sector. MESI 2.0 sets out to increase industry efficiency in the industry, to future-proof key processes, regulations and structure in the industry, and to empower consumers by democratising and decentralising the electricity supply industry.[2] Some of the key planned reforms include doing away with Power Purchase Agreements ("PPAs") which offer guaranteed capacity and energy payments, issuing future PPAs via capacity auction and a quota of combined 100MW for renewable energy plants to sell electricity directly to consumers.
- **Renewable Energy Transition Roadmap ("RETR") 2035** – RETR 2035 is a strategic roadmap developed by SEDA along with industry stakeholders which outlines, amongst others, the strategies and action plans to support and achieve the key renewable energy policies and targets in Malaysia.[3] The roadmap will form part of Malaysia's 12th Malaysian Plan (2021-2025).[4]

Fiscal Incentives in Relation to Solar in Malaysia

With the object of promoting green technology, the Government had during the announcement of Budget 2014 introduced Green Technology Tax Incentives for the purchase and use of green technology which includes solar power and energy from the year assessment 2013 until 31st December 2020.

Further, in the announcement of the Budget 2020, the Government announced the extension of the Green Technology Tax Incentives until 2023 and introduced income tax exemption of up to seventy percent (70%) for a period of up to ten (10) years for companies which undertake solar leasing activities[5]. The incentives related to solar energy are respectively described below.

Green Investment Tax Allowance (GITA) for Assets

Applicable to companies that acquire qualifying green technology assets listed under the MyHIJAU Directory, the GITA for Assets incentive provides investment tax allowance for one hundred percent (100%) of qualifying capital expenditure incurred on green technology asset from the year of assessment 2013 (date on which the first qualifying capital expenditure incurred must not be earlier than 25th October 2013) until the year of assessment 2023. Under this incentive, the allowance can be offset against seventy percent (70%) of statutory income of the company(ies) in the year of assessment and the unutilised allowances can be carried forward until they are fully absorbed.[6]

Green Investment Tax Allowance (GITA) for Projects

The GITA for Projects is applicable to companies carrying out qualifying green technology projects for their business or for self-consumption. It provides one hundred percent (100%) income tax allowance on qualifying capital expenditure for a project from the year of assessment from the year of assessment 2013 (date on which the first qualifying capital expenditure incurred is not earlier than 25 October 2013) until 2023.

Similar to the GITA for Assets, the allowance can be offset against seventy percent (70%) of the statutory income in the year of assessment and any unutilized allowance can be carried forward until they are fully absorbed. However, projects which have been approved with Feed-in-Tariff ("FiT") for solar by SEDA are not eligible for GITA for Projects.[7]

Green Income Tax Exemption (GITE) for Services

Green Income Tax Exemption is granted to qualifying companies which provides green technology services which have been verified by GreenTech Malaysia and listed under the MyHIJAU Directory. The list of activities which qualify as green technology services include services related to renewable energy project such as system design and feasibility study, advisory and consultancy, testing and commissioning of renewable energy.[8]

This incentive provides for income tax exemption of one hundred percent (100%) of statutory income for the year assessment from the date the application was received by the Malaysian Investment Development Authority (“**MIDA**”) until 2023. Note that applications made from 1st January 2020 will be eligible for income tax exemption of seventy percent (70%) of the statutory income for the year of assessment.

Green Income Tax Exemption (Solar Leasing)

This is a new incentive introduced through Budget 2020. It provides for a seventy percent (70%) income tax exemption of the statutory income of the company for the year of assessment for applications received by MIDA from 1st January 2020. This income tax exemption is applicable for a period of up to ten (10) years for companies undertaking solar leasing activities.

Green Technology Financing Scheme 2.0

In addition to the abovementioned tax incentives, the Ministry of Finance had, with the recommendation proposed by MESTECC, agreed to introduce the Green Technology Financing Scheme 2.0 (“**GTFS 2.0**”). The GTFS 2.0 is an enhanced version of the Green Technology Financing Scheme (“**GTFS**”) which was first introduced back in 2010 to encourage the supply and usage of green technologies.

The GTFS offers financial aid to producers of green technology, users of green technology and Energy Services Companies (“**ESCOs**”). The Scheme is made available until 31 December 2020 or upon reaching a total financing/funding approval amount of RM2.0 billion. Further, the GTFS 2.0 scheme offers rebate of two percent (2%) per annum on interest and/or profit rate for the first seven (7) years for each financing with sixty percent (60%) government guarantee on green technology cost.

The financing amount and tenure for the respective eligible parties are as follows:

Parties	Financing Amount (RM)	Financing Tenure
Producer of Green Technology	RM100 million per each group of company	Up to 15 years
User of Green Technology	RM50 million per each group of company	Up to 10 years
ESCOs	RM25 million per each group of company	Up to 5 years

Solar Energy Programmes in Malaysia

There are various programmes and incentives introduced to promote solar energy in Malaysia. The details of each programme are elaborated below.

National Solar Photovoltaic Monitoring System (“PVMS”)

First launched by SEDA in 2018, the PVMS is a real-time monitoring system of the performance and reliability of key components such as PV modules and inverters of grid-connected solar photovoltaic (PV) systems in Malaysia. The data and information derived from the PVMS also allows for the identification and analysis of any technical problems related to PV systems.[9] From the valuable data extracted from PVMS, informative reports and analysis could be produced which are available upon subscription. The types of reports available for purchase are summary of energy generation, plant performance, meteorological data and irradiation data.[10]

PV system owners can voluntarily participate in this programme and monitor their own PV systems – PVMS devices will be installed, the cost of which will be borne by SEDA subject to fund availability, and PV owners will have full access to the PVMS webportal displaying the real-time and historical data of their PV systems.

Supply Agreement for Renewable Energy (“SARE”) Programme

SARE is a tripartite agreement entered into between customer, investor/owner and the distribution licensee i.e. Tenaga Nasional Berhad (“TNB”) aimed at increasing the accessibility and affordability of adopting solar PV systems by customers. Under SARE programme, the investor/owner leases the solar PV system to the customer whilst the solar energy purchase by the customer will be billed by TNB. In this arrangement, TNB’s assumes the role of a contracting and billing agent. Customers pay a leasing fee to the investor/owner via TNB and in return, consumers do not have to pay the upfront cost to install the solar PV systems which makes investing in solar PV systems more affordable for customers. SARE supports and covers PPAs and Solar Leasing arrangements. To participate in the SARE programme, the investor/owner must be registered with SEDA.

Large Scale Solar (“LSS”)

In an effort to reduce the Levelized Cost of Energy (“LCOE”) for the development of large scale solar PV (“LSSPV”) plants, the LSS, a competitive bidding programme, was introduced in 2016. The LSS programme is implemented by the EC who would invite bidders to submit their bids to build, own and operate LSSPV plants. The shortlisted bidders will subsequently enter into PPAs with TNB or Sabah Electricity Sdn Bhd (“SESB”).

The bidding for the third and latest LSS round was opened in 2019 for the development of LSSPV Plants in Peninsular Malaysia for commercial operation in 2021. The third LSS round had one hundred and twelve (112) bidders offering an export capacity ranging from 5MW to 100MW.[11] The announcement of the shortlisted bidders saw EC awarding a total of slightly less than 500MW in capacity to five (5) bidders which include foreign solar developers from Germany and France in consortium with local companies.

According to EC's requirements, participants intending to participate in LSS must be a local company with a Malaysian equity interest of at least fifty-one percent (51%) or a consortium of legal entities consisting of at least one local company and which has Malaysian equity interest in the consortium of at least fifty-one percent (51%). This effectively restricts foreign equity shareholding of a participant to forty-nine percent (49%).[12]

Feed-in Tariff (“FiT”) for Solar Photovoltaic

FiT is a scheme which obliges the Distribution Licensees to buy the electricity produced from renewable resources (i.e. biomass, biogas, small hydropower and solar photovoltaic) from Feed-in Approval Holders at a prescribed FiT rate and for a specific period. Distribution Licensees (“DLs”) refer to companies holding the licence to distribute electricity in Malaysia such as TNB, SESB and NUR Power Sdn Bhd (“NUR”) while Feed-in Approval Holders (“FIAHs”) refer to an individual or company who holds a feed-in approval certificate issued by SEDA and entitled to sell renewable energy at the FiT rate.

Through the FIT scheme, the FIAHs are entitled to various benefits such as the generation tariff payment where the producer of the electricity will be paid for the electricity produced, export tariff payment where the producer will be paid for the electricity generated and other incentives offered under the green technology and/or renewable energy programmes. The Feed-in Tariff for Solar Photovoltaic which was introduced in 2011 is however closed for registration since 2016 and the Net Energy Metering mechanism was introduced to replace the FiT for Solar Photovoltaic.

Net Energy Metering (“NEM”)

NEM is a scheme whereby the energy produced from the solar PV installed will first be consumed by the consumer for his own consumption and any excess energy produced will be exported to the grid and sold to the Distribution Licensees at the prevailing displaced cost prescribed by the EC and the credit received can be rolled over for a maximum of twenty-four (24) months and net-off at the prevailing displaced cost.

Effective 1st January 2019, the displaced cost is replaced by a “one-on-one” offset basis whereby every 1kWh of exported to the grid will be offset against 1kWh consumed from the grid to manifest the true net energy metering concept (“**NEM 2.0**”) and improve the return of investment of solar PV under the NEM. NEM is available in Peninsular Malaysia and Sabah. However, the New NEM Scheme is only applicable to TNB’s customers in Peninsular Malaysia.

Generally, consumers who are registered with TNB in Peninsular Malaysia and SESB in Sabah and the Federal Territory of Labuan are eligible to apply for NEM. There is no equity restriction for any companies wishing to undertake the NEM scheme and the scheme is applicable to all domestic, commercial, industrial and agricultural sectors.[13] The eligible consumers may participate in NEM through financing and third party ownership, subject to the mutual agreement between the NEM consumer and the investor.

The capacity limits for the PV system installed are as follows[14]:

Sectors	Maximum Capacity of the PV System
Domestic/ Residential (single phase system)	12kW
Domestic/ Residential (three (3) phase system)	72kW
Commercial, Industrial and Agricultural	75% of Maximum Demand of the consumer's current installation: (a) based on the past 1 year average of the recorded Maximum Demand of the consumer's installation; or (b) the declared Maximum Demand for consumers with less than 1 year.

A quota of 500 MW has been allocated for NEM for the period of 2016 to 2020. According to the SEDA Malaysia’s 2019 Report Card issued on 4th January 2020, SEDA has approved a total of cumulative NEM programme quota of 108MW as at end of November 2019. This portrays a growth of 7.8 times increment of approved NEM quota as compared to the previous three years and is believed to be largely contributed by the NEM 2.0 programme. The Cumulative NEM approved from 2016 to 2019 is as tabulated below:

Year	NEM Quota Approved by SEDA (MW)
2016	0.01
2017	2.33
2018	11.54
2019	94.14
Total	108.01

Peer-to-Peer Solar Energy Trading (“P2P”).

Introduced by SEDA in 2019, the P2P energy trading programme provides a platform for producers of solar PV power (“**prosumers**”) to sell excess power generated by them to other consumers through a retailer/grid operator (i.e. TNB), at a rate competitive to the retailer’s tariff. The participating consumers under this programme would have the option of purchasing solar electricity either from the P2P or from the retailer. Under this programme, the grid operator is compensated with grid fee while the retailer operating the energy trading platform is compensated with retailer’s fee.

The P2P energy trading programme is in line with the new MESI 2.0 initiative which aims at empowering customers with choices, encouraging more solar PV prosumers and enhancing customer experience through digital innovation. One can become a prosumer so long as he is a NEM holder registered with SEDA Malaysia and holds a generation license for system capacity of more than 72kW with the Energy Commission.

To test the viability of the P2P energy trading project, SEDA had in late 2019 launched the first pilot run for the P2P energy trading project for electricity across TNB’s grid under the RETR 2035. Through a collaboration with Australia’s Power Ledger Pty Ltd, the eight (8) month pilot which uses blockchain technology will run in two phases. The alpha phase which will commence for a period of two (2) months will test the technical operability of the programme while the beta phase which will run for a period of (6) months will witness the conclusion of commercial transactions under the P2P programme as the same will be enabled among solar prosumers and electricity consumers.

The P2P programme operates based on energy arbitrage opportunities and SEDA has recommended for a maximum arbitrage opportunity of ten percent (10%) as the margin. Based on the TNB tariff, it costs an average of 35.5sen for a prosumer to generate one kilo watt hour of energy and the prosumer is allowed to sell the energy at 39.05 sen per kWh. The consumer will bear the cost for purchasing the energy from the prosumer and the sandbox network charges of 6.3 sen per kWh. In light of the above, the P2P programme provides for a win-win situation for both the prosumer and consumer whereby the prosumer will earn a profit of 10% from selling the energy and the consumer will experience an eleven percent (11%) savings on the costs. By purchasing energy from a prosumer, the consumer will only have to bear a total cost of 45.35 sen per kWh instead of 50.9 sen per kWh as set by the TNB tariff.

Conclusion

Solar energy is a great alternative energy source which is the cleanest and most abundant renewable energy source available. Thanks to the various incentives and cost-reducing stimulus introduced in respect of solar and/or renewable energy, Malaysia has in the recent years witnessed the rise in the solar energy industry with

growing investor confidence. However, we still have a long way before achieving the twenty percent (20%) targeted use of renewable energy in our generation mix by 2025. Although the current trend seems to be positive, continuous efforts must be made to boost the renewable energy sector in Malaysia.

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- 1 <http://www.seda.gov.my/policies/national-renewable-energy-policy-and-action-plan-2009/>
 - 2 Energy Commission, Energy Malaysia, Volume 17 (2018) Page 9
 - 3 Energy Commission, Energy Malaysia, Volume 18 (2019), Page 16
 - 4 Ibid.
 - 5 Budget 2020 Speech, Driving Growth and Equitable Outcomes Towards, Shared Prosperity, Paragraph 67, Page 25
 - 6 Ibid., Paragraph 4.1, Page 12
 - 7 Ibid., Paragraph 5.2, Page 23
 - 8 Ibid., Paragraph 6.2, Page 29
 - 9 SEDA, About PVMS <<https://pvms.seda.gov.my/pvportal/about/>> accessed 9 April 2020
 - 10 SEDA, PV Portal, Types of Reports <<https://pvms.seda.gov.my/pvportal/purchase-report/>> accessed 9 April 2020
 - 11 Energy Commission, Submission of Bids – Large Scale Solar (LSS) Photovoltaic Plant <https://www.st.gov.my/contents/2019/LSS/Bid-Price-Opening-Final_26-August-2019.pdf>
 - 12 Energy Commission, Guidelines on Large Scale Solar Photovoltaic Plant For Connection to Electricity Network, Page 6
 - 13 Energy Commission, Guidelines for Solar Photovoltaic Installation on Net Energy Metering Scheme Paragraph 10, Page 7 .
 - 14 Ibid., Paragraphs 19 and 20, Pages 8 to 9
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Important Information

Azmi & Associates has set up Azmilaw Task Force to look into all issues arising from COVID-19 and MCO. Clients are welcomed to contact their usual Partner who will bring their issues to Azmilaw Task Force for our further action.

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We trust that we have provided an insight on solar energy in Malaysia. If you have any further enquiries relating to the above or any other enquiries relating to renewable energy, please feel free to get in touch with Azmi & Associates.

Corporate Communication

Azmi & Associates

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