Renewable Energy Statutory Framework in Malaysia: An Overview

by Ooi Bee Hong and Eleena Abd Wahab

RE takes centre stage — Are we ready to take major strides?

In 2011, a Stanford University study on alternative energy concluded that "*there are no technological or economic barriers to converting the entire world to clean, renewable energy sources… It is a question of whether we have the societal and political will.*"[1]

The change in government in May 2018 after the 14th General Election saw the coming into power of the new Pakatan Harapan coalition. One of its Manifesto pledges[2] was its commitment to boosting sustainable and economic growth by focusing on renewable energy ("**RE**")[3] and green technology. In line with this sentiment, the Federal Government ("**government**") has set a target of increasing RE's contribution to the overall energy generation mix from 2% (as recorded in 2018) to 20% by 2025.[4] The enthusiasm for RE is only natural, given that Malaysia, with its equatorial climate, is blessed with an abundance of RE resources waiting to be utilised and maximised. This then begs the question: Is there a supportive regulatory framework in Malaysia for it to achieve the ambitious 20% RE contribution target by 2025?

Statutory framework of RE

Statutorily, RE is mainly regulated by three pieces of legislation, namely:

- The **Electricity Supply Act 2001** ("**ES Act**"),[5] which regulates the electricity supply industry, reasonable pricing of the supply of electricity, the licensing of electrical installations, and other matters relating to the safety and efficient use of electricity.[6]

- The **Sustainable Energy Development Authority Act 2011** ("**SEDA Act**") which established the statutory body, Sustainable Energy Development Authority ("**SEDA**"), and empowers it to carry out its duties relating to the development of sustainable energy sources. These powers include advising the government on sustainable energy issues, promoting the national policy objectives for RE, and encouraging investment in RE sectors.

- The coming into force of the **Renewable Energy Act 2011** ("**RE Act**"), together with other subsidiary legislation,[7] was one of the initiatives spurred on by the National Renewable Energy Policy and Action Plan. The RE Act was passed with the objective of focusing on RE development vis-à-vis the feed-in tariff ("**FiT**") mechanism[8] (discussed in more detail below).

1 Louis Bergeron, "The world can be powered by alternative energy, using today's technology, in 20-40 years, says Stanford researcher Mark Z Jacobson", *Stanford Report* (26 January 2011) <https://news.stanford.edu/news/2011/january/jacobson-world-energy-012611.html>.

2 Pakatan Harapan manifesto, *Buku Harapan* (8 March 2018), pp 85-86 <https://kempen.s3.amazonaws.com/manifesto/Manifesto_text/Manifesto_PH_EN.pdf>.

3 Renewable energy (RE) is defined under the Renewable Energy Act 2011, s 2 as "*electricity generated or produced from renewable resources*". The Energy Commission Act 2001, s 2 defines RE more descriptively as "*energy which is not depleted when used and includes energy obtained from energy sources such as biomass, hydro power, solar power, geothermal power, wind power, waves and tides*".

4 Tan Xue Ying, "Malaysia needs RM33b to achieve 2025 green energy target", *The Edge Financial Daily* (4 September 2019) <https://www.theedgemarkets.com/article/malaysia-needs-rm33b-achieve-2025-green-energy-target>.

5 The ES Act is supplemented by numerous pieces of subsidiary legislation including, but not limited to, the Licensee Supply Regulations 1990, the Electricity Regulations 1994, the Efficient Management of Electrical Energy Regulations 2008, and the Electricity Supply (Compounding of Offences) Regulations 2017.

6 ES Act, Preamble.

7 The Renewable Energy Act 2011 is supplemented by a number of subsidiary legislation, including but not limited to, the Renewable Energy (Criteria for Renewable Resources) Regulations 2011, Renewable Energy (Feed-In Approval and Feed-In Tariff Rate) Rules 2011, Renewable Energy (Allocation From Electricity Tariffs) Order 2013.

8 Farahdilah Ghazali, Abdul Haseeb Ansari, Maizatun Mustafa and Wan Mohd Zulhafiz Wan Zahari, "Renewable Energy Development and Climate Change Mitigation in Malaysia: A Legal Study", *Journal of Sustainability Science and Management* published by University Malaysia Terengganu, vol 14, no 3, June 2019: pp 110-116 <http://jssm.umt.edu.my/wp-content/uploads/sites/51/2019/08/bab-13-14.3_1_pagenumber.pdf>.

Another important feature of the RE Act is the establishment of an RE Fund, which is managed and overseen by SEDA.[9] The Fund, which comprises sums allocated by Parliament, sums collected by SEDA under the RE Act, and income derived from investments made from the Fund,[10] has the objective of providing funding and financial support to the FiT mechanism and for the enforcement of the RE Act.

Main RE authorities and regulators

The implementation, monitoring and enforcement of Malaysia's RE policies are primarily carried out by the following bodies:

- The **Ministry of Energy, Science, Technology, Environment and Climate Change** ("**MESTECC**"), as its name suggests, is the federal ministry and main authority spearheading and overseeing policies and initiatives within the energy, science, technology, environment and climate change sectors.

- The **Energy Commission** ("**EC**") is the main regulator of the energy sector in Peninsular Malaysia and Sabah.[11] In overseeing the electricity and piped gas supply industries, the EC is tasked with balancing the needs of consumers and energy suppliers while encouraging economic development and creating positive market competition.

- **SEDA** has the primary function of administering and managing the implementation of the FiT mechanism as governed under the RE Act.[12] In addition to advocating the deployment of sustainable energy initiatives for developing the nation's economy, SEDA also monitors and ensures that existing sustainable energy policies are carried out efficiently.[13]

Reforming and implementing RE policies and initiatives

One of the government's early initiatives to promote RE was the 1979 National Energy Policy. Set against the backdrop of the international oil crisis of the 1970s,[14] this Energy Policy aimed to ensure the adequate, secure and cost-effective supply of energy, while also promoting the efficient utilisation of energy.[15] Subsequently, the Four-Fuel Diversification Policy was adopted, which focused on balancing the utilisation of oil, gas, coal and hydro in the energy mix. A greater emphasis on RE was then introduced via the Five-Fuel Diversification Policy under the 8th and 9th Malaysia Plans, in which the government set out its commitment to rely on RE as a significant source of energy in addition to gas, coal, oil and hydro. The National Renewable Energy Policy and Action Plan was introduced under the 10th Malaysia Plan in 2010 with the objectives of increasing RE's contribution to the energy mix, supporting the RE sector's growth, encouraging the affordability of RE, promoting environmental preservation and raising public awareness on RE's importance.[16] Other significant initiatives include the following:

- The **FiT mechanism**, being one of the major initiatives introduced under the National Renewable Energy Policy and Action Plan, falls under the purview of SEDA. All electricity generated from RE resources can be sold to a distribution licensee (e.g. Tenaga Nasional

9 Renewable Energy Act 2011, s 23(1).
10 *Ibid*, s 23(2).
11 The EC is a statutory body established under the Energy Commission Act 2001. The regulation of electrical installations and the supply of electricity in Sarawak is governed by the Sarawak Electricity Ordinance, and such regulatory function is carried out by a Director of Electricity Supply as appointed by the Minister of Public Utilities, Sarawak. The Director of Electricity Supply is assisted by an Electrical Inspectorate Unit under the Ministry of Public Utilities in regulating the electricity supply industry in Sarawak. Please see <https://mou.sarawak.gov.my/page-0-69-47-Electrical-Inspectorate-Unit-EIU.html>.
12 As extracted from SEDA's official website <http://www.seda.gov.my/about-seda/vision-mission-statements/>.
13 *Ibid*.
14 Argued by some to have been caused mainly by the disruption in supply due to the Iranian Revolution.
15 Saad Mekhilef, Meghdad Barimani, Azadeh Safari, and Zainal Salam, "Malaysia's Renewable Energy Policies and Programs with Green Aspects", *Renewable and Sustainable Energy Reviews*, vol. 40, 2014, pp 497-504 <https://umexpert.um.edu.my/file/publication/00005361_117292.pdf> and "Malaysia Energy Policy — Focusing on Sustainable Energy Development and The Way Forward", a presentation by the Ministry of Energy, Green Technology and Water (KeTTHA) <http://bseep.gov.my/App_ClientFile/df08bc24-99fb-47a3-937f-dc25df9d3997/Assets/BSEEP%20NCA2017/PAPER%204%20-%20KETTHA_Malaysia%20Energy%20Policy_04052017.pdf>.
16 Saad Mekhilef, Meghdad Barimani, Azadeh Safari, and Zainal Salam, "Malaysia's Renewable Energy Policies and Programs with Green Aspects", *Renewable and Sustainable Energy Reviews*, vol 40, 2014, pp. 497–504 <https://umexpert.um.edu.my/file/publication/00005361_117292.pdf>.

Berhad ("**TNB**")) by feed-in approval holders ("**FIAH**") at an approved feed-in tariff, for a specific period of time and subject to SEDA-imposed quotas.[17] The FiT mechanism is intended to provide financial incentives for FIAHs to generate RE, promoting it as an attractive and viable investment opportunity.

- The **Net Energy Metering ("NEM") Scheme** is a mechanism that allows eligible consumers to export excess energy generated by their own solar photovoltaic ("**PV**") systems back to the grid. This is then offset against the consumer's electricity bill for energy supplied by TNB during the applicable billing period. Earlier this year, the NEM Scheme was given a makeover through the introduction of more attractive returns for consumers. Previously, excess electricity was sold to TNB at the displaced cost of 31 sen/kWh.[18] Under the new, improved Scheme, each 1kWh of excess electricity exported to the grid will be offset against 1kWh consumed from the grid, which will be deducted and reflected in the consumer's electricity bill.[19]

- Complementing the NEM Scheme, the **Supply Agreement for Renewable Energy ("SARE") Programme** introduces a solar leasing concept under which consumers will be able to install solar PV systems in their homes at zero upfront cost. This Programme allows investors, mainly solar power companies, to finance the capital outlay for the installation of the solar PV systems for the consumers. Under this Programme, TNB oversees the billing, collection and remittance of payments by consumers to investors in return for a service fee.[20] Monthly payments for solar power or repayments to investors will be done through the monthly TNB electricity bill.[21]

- Initially implemented in 2016, the **Large Scale Solar ("LSS") Procurement Process** is a competitive open bidding process in which the EC invites persons with the relevant capabilities to develop, operate and maintain large scale solar PV power plants to connect to the distribution networks in Peninsular Malaysia and Sabah. The government has recently closed the bidding period for its third round of the LSS process ("**LSS3**"), which is expected to generate about RM2 billion worth of projects within the RE sector.[22]

- The Cabinet has also recently approved the **Malaysia Electricity Supply Industry 2.0 ("MESI 2.0")**, a 10-year masterplan which aims to boost efficiency in the domestic electricity sector, to "future-proof" the main processes, regulations and structure of the energy sector, and to democratise and empower consumers by decentralising the electricity supply industry.[23]

- SEDA, together with industry stakeholders, is currently developing the **Renewable Energy Transition Roadmap ("RETR") 2035**, expected to be rolled out in 2021 as part of the 12th Malaysia Plan. The RETR aims to catalyse the development of RE in Malaysia with the ultimate goal of delivering reliable green power to all.[24]

17 Feed-in Tariff (FiT) brochure published by SEDA, 15 February 2019 <https://www.seda.gov.my/2019/02/fit-brochures-2/>.
18 This displaced cost is in relation to low voltage systems, such as residential consumers. For commercial or industrial consumers that use a higher voltage system, the displaced cost is lower: Tan Zhai Yun, "Going Green: Promoting renewable energy among Malaysians", *The Edge Malaysia* (14 September 2017) <http://www.theedgemarkets.com/article/going-green-promoting-renewable-energy-among-malaysians>.
19 NEM brochure published by SEDA, 14 May 2019 <https://www.seda.gov.my/2019/05/nem-brochure-english/>.
20 As stated in the joint press released by MESTECC and SEDA, "MESTECC Provided Update on the New Net Energy Metering (NEM) & Policy on New Solar PV Businesses Behind-The-Meter" (23 November 2018) <http://www.seda.gov.my/?omaneg=000101000000010101010001000010000000000000000000000&y=45&s=6962>.
21 P Prem Kumar, "Yeo: Cheaper electricity for solar power users from Jan 1", *The Malaysian Reserve* (23 October 2018) <https://themalaysianreserve.com/2018/10/23/yeo-cheaper-electricity-for-solar-power-users-from-jan-1/>.
22 "Malaysia needs RM33b to achieve 2025 green energy target", *The Edge* (4 September 2019) <https://www.theedgemarkets.com/article/malaysia-needs-rm33b-achieve-2025-green-energy-target>.
23 "Government to Reactivate MyPower", Energy Malaysia, Vol 17, 2018, p 4, as published the by Energy Commission <https://www.st.gov.my/contents/files/download/112/Energy_Malaysia_17_(Online)_.pdf>.
24 "A Projection of Malaysia's Energy Landscape", Energy Malaysia, Vol. 18, 2019, pp 14-16, as published by the Energy Commission <https://www.st.gov.my/contents/files/download/112/Energy_Malaysia_18_(Online).pdf>.

Malaysia — A fertile ground for RE?

The International Energy Agency envisages that the installed capacity of renewable energy worldwide could exceed more than one trillion watts over the next five years, with the predominant basis for this prediction being the increase in government support for RE globally.[25] The government's proactivity in promoting RE and sustainability-related policies and incentives, coupled with the existing framework and growing public awareness of green energy, sustainability and climate change issues, demonstrates Malaysia's commitment to striving to put clean and renewable energy sources at the forefront. Despite this, Malaysia's carbon emissions continue to increase significantly.[26] With the incoming implementation of newer policies such as MESI 2.0 and RETR, and in line with the government's pledge to commit to the Paris Agreement, the government needs to work together with various industry stakeholders and consumers towards reducing our carbon footprint and bringing Malaysia up to par with RE titans like Iceland, Sweden and China. **LH-AG**

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25 "Renewables on the Rise", Energy Malaysia, Vol 18, 2019, p 4, as published by the Energy Commission <https://www.st.gov.my/contents/files/download/112/Energy_Malaysia_18_(Online).pdf>.

26 Ethel Khoo, "Malaysia continues efforts to reduce carbon footprint", *The Edge* (19 September 2019) <https://www.theedgemarkets.com/article/malaysia-continues-efforts-reduce-carbon-footprint>.