

THE RENEWABLE ENERGY ACT: IS MALAYSIA POWERING UP RIGHT?

Almost a decade has passed since the Renewable Energy Act 2011 introduced the feed-in tariff scheme in Malaysia. The mission was to increase electricity generation from renewable sources, and accelerate the growth of the country's renewable energy sector. Amin Abdul Majid and Khoo Yu Lin, Partners from the Projects, Infrastructure and Energy Practice Group of Zaid Ibrahim & Co. (a member of ZICO Law), reflect on the development of Malaysia's renewable energy and energy efficiency efforts, and share their thoughts on whether the industry is poised for a further boost.

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When it was first drafted and subsequently passed by Parliament in 2011, the Malaysian Renewable Energy Act ("RE Act") set out to catalyse the country's renewable energy sector. The statute introduced a feed-in tariff scheme that would boost the generation of electricity from renewable resources. These are recurring and non-depleting indigenous resources or technology. Although renewable resources can come in different types and forms, the ones accepted and prescribed under the RE Act (for the purposes of the feed-in tariff) are biogas, biomass, small hydropower, solar photovoltaic and geothermal.

The benefits of renewable energy are self-evident but worth mentioning in brief. The generation of energy using renewable resources improves the environment because it is a process that avoids the destructive extraction of non-recurring minerals or resources such as petroleum and coal. It reduces the volatility of the price of energy, (because renewable resources are free or very cheap), and creates low levels of pollution, if at all. Renewable generation also adds diversity to Malaysia's fuel sources and thus improves the security of supply while at the same time creating new green jobs and revenue.

THE FEED-IN TARIFF SCHEME

Through the RE Act, the Government of Malaysia followed the footsteps of countries such as the Netherlands, Germany and the Philippines in deploying feed-in tariffs; giving renewable energy generators a premium for each unit of electricity that is generated using renewable resources. Utilities such as Tenaga Nasional Berhad and Sabah Energy Sdn. Bhd. would pay above the average electricity tariff and in some cases, in excess of RM1 for each kWh. This can translate to hundreds of ringgit per month and more and thus, it is no surprise that the feed-in tariff scheme was very popular until the allocated premiums mostly ran out. Various parties ranging from homeowners to houses of worship to businesses were able to avail themselves of the feed-in tariffs, leading to a very high demand for feed-in approvals. Indeed, when the feed-in tariff scheme was first launched, the website of the implementing agency, Sustainable Energy Development Authority (SEDA), crashed as there was too much traffic due to the high level of interest and applications for feed-in approvals.

Yet despite the enthusiasm and eagerness for the feed-in tariff system, it was only able to cause a small uptick in renewable generation, taking but a small portion in electricity generation still dominated by fossil fuels. A number of factors have caused this situation. While many feed-in approvals have been granted, not all of them led to actual renewable generation. Many feed-in approval holders had not obtained sufficient technical and legal support and consequently faced difficulties in obtaining financing, securing regulatory approvals and dealing with project management issues. Thus, the high number of feed-in approvals were not immediately nor fully translated into higher renewable generation.

This is not to say that the RE Act and the introduction of the feed-in tariff scheme were acts in futility. They were important steps in Malaysia's move to promote renewable generation, particularly when earlier attempts were not sufficiently widespread and therefore had limited impact. However, knowing what the numbers show today, it is

The RE Act was a welcomed initiative because it brought steady progress, as compared to the mixed outcomes of earlier attempts of the Malaysian Government to encourage the renewable generation. But nearly ten years after coming into operation, renewable energy in Malaysia still remains barely half of the country's official targets. According to latest available statistics, renewable generation in 2017 was at 528.06 MW as compared to the Government target of nearly 1,000 MW. Malaysia is unlikely to be able to bridge this gap any time soon given that the target for 2020 is as high as 2,065 MW2.

The significant shortfall between targeted and actual renewable generation has led the authors to ask whether the time has come to modify and renew the RE Act to help Malaysia achieve its green aspirations. The authors look at other methods to achieve Malaysia's commitment to increased renewable generation, while addressing climate change through energy efficiency efforts.

important to acknowledge that the RE Act was primarily the introduction of one renewable energy policy and the time has now come for Malaysia to embrace others.

The Government has continually been aware of the need to do more in the renewable energy arena. In the case of solar, for instance, it introduced net energy metering in 2016, allowing consumers to generate electricity on their rooftops and sell the resultant power to utilities such as Tenaga Nasional Berhad. It was hoped that this scheme would encourage the public to install more solar photovoltaic rooftop units, even if premiums under the feed-in tariff scheme are no longer available. Similarly, the Energy Commission conducted competitive bids in 2016, 2017 and 2019 for large scale solar ("LSS") facilities with the aim of having between 450 MW to 550 MW of solar photovoltaic capacity installed every year from 2017 to 2021.

However, these efforts may not be enough when there is a large gap to be filled. Previous experience in other jurisdictions have shown that one or two renewable energy policies are insufficient to substantially encourage renewable generation. What is required is a healthy mix and match of options. Certainty in policy is also crucial to attract investors to sponsor infrastructure projects. In contrast, net energy metering and the LSS bidding exercises have been run largely through ad hoc announcements made by the respective implementing agencies.

As an alternative, introducing one or more additional and different renewable energy policies under a renewed RE Act may provide an assurance to stakeholders of the Government's enduring commitment to promote renewable energy. This can also offer clear indications of what lies in the pipeline and hence boost the confidence of investors. This intention can perhaps most easily be achieved by incorporating new schemes under a revised RE Act.

RENEWABLE PORTFOLIO STANDARDS

One such scheme can be renewable portfolio standards (“RPS”) which involve stipulating specified amounts of renewable generation to utilities such as Tenaga Nasional Berhad, Sabah Electricity Sdn. Bhd. or others. In other words, a given amount of electricity coming from these utilities must come from renewable resources. The Ministry of Energy, Science, Technology, Environment and Climate Change (MESTECC) has gone some way towards this when its Minister announced in 2018 that 20% of Malaysia’s power generation is to come from renewable resources by 2025. However, an accurate

translation of this quota into individual utility targets is critical because the biggest hurdle with RPS is enforcement. Without penalties for non-compliance, it would be easy for utilities to give little more than lip service to the Government’s efforts to increase renewable generation. This is a key issue because countries such as India have seen their efforts through RPS (called renewable purchase obligations there) fail through lack of enforcement. This further strengthens the argument that legislation may be a better approach to achieve the set objective.

RENEWABLE ENERGY CREDITS

Another renewable energy policy that has not received enough attention in Malaysia and the wider ASEAN region is renewable energy credits. This is a policy relating to the provision of documentary evidence of renewable generation by generators. Each Renewable Energy Credit (“REC”) represents the environmental benefits of a certain unit (e.g. 1MWh) of renewable generation. Under an REC regime, purchasers (typically electricity retailers) surrender a specified number of certificates (from renewable generators) for the electricity that they acquire during a year. Where a purchaser does not have enough certificates to surrender, it must pay a renewable energy shortfall charge. Alternatively, these purchasers can pay for and acquire

RECs from others. RECs have proven to be effective and popular in Europe and the United States of America, especially where RPS are also in place.

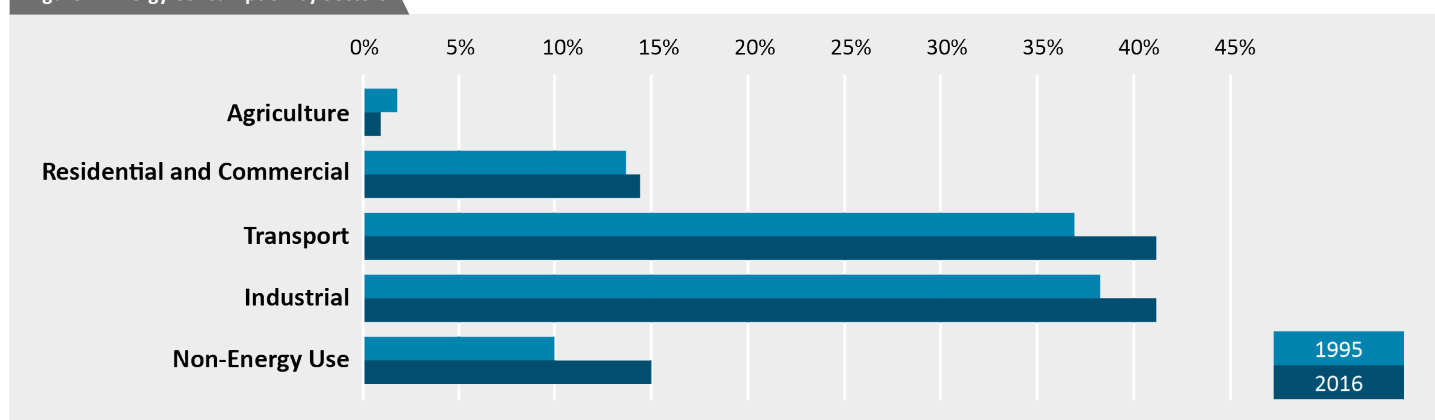
Thus clear options for the renewal of the RE Act are available and RPS and REC are but two policies that can be implemented. However, the enthusiasm for new renewable generation must be tempered with a recognition that there are other ways that Malaysia can enhance its green credibility. One such method is through energy efficiency measures explored further below.

THE ROLE OF ENERGY EFFICIENCY IN GREENING MALAYSIA AND ACHIEVING CLIMATE GOALS

Pursuing renewable energy initiatives is essential in order for Malaysia to achieve the goals of sustainability and energy security. However, managing the supply of renewable energy needs to be coupled with measures to oversee the demand side through energy efficiency and conservation (“EE”) initiatives. What is EE? To put it simply, EE means using less energy to achieve the same results or provide the same service.

As our country continues to develop, energy consumption is projected to rise and along with it greenhouse gas emissions. In 1995, total energy consumption was 21,164 ktoe and by 2016, this amount has more than doubled to 57,216 ktoe with the main consuming sectors being transport, followed by industrial and the residential and commercial sector.

Figure 1: Energy Consumption by Sectors



Source: National Energy Balance 2015 & 2016

EE’s potential in meeting the growing demand for energy must be fully harnessed. One advantage of EE is that it is often the least-cost way of meeting the future demand for energy, far cheaper than building new fossil fuel power plants to meet such demands. It may

seem obvious and commonsensical to conserve and be more efficient with our energy consumption. But the lack of widespread awareness and apathy call for a carrot (incentives), stick (regulatory tools or/and penalties) and tambourine (public awareness) approach.

ENERGY EFFICIENCY EFFORTS IN MALAYSIA

The Ministry of Energy, Science, Technology, Environment and Climate Change announced, in late 2018, that an Energy Efficiency Conservation Bill will be introduced and tabled in Parliament as soon as possible. Prior to this though, energy efficiency has already been a feature in Malaysian socioeconomic policies since the 7th Malaysia Plan in 1996 and has grown increasingly more prominent over the years. EE efforts have been a mix of regulatory and non-regulatory measures coupled with financial incentives, but mainly geared towards electricity consumption. Early regulatory measures include the Efficient Management of Electrical Energy Regulations 2008 (“EMEER”) targeting users with high energy consumption, for example those in the industrial sector such as manufacturing or mining companies. EMEER provides that users that cumulatively consume more than three million kWh of electricity over a period of six months are required to appoint an energy manager who is responsible for monitoring the total electrical consumption of the installation and advising on the development and implementation of measures to ensure efficient management of electrical energy.

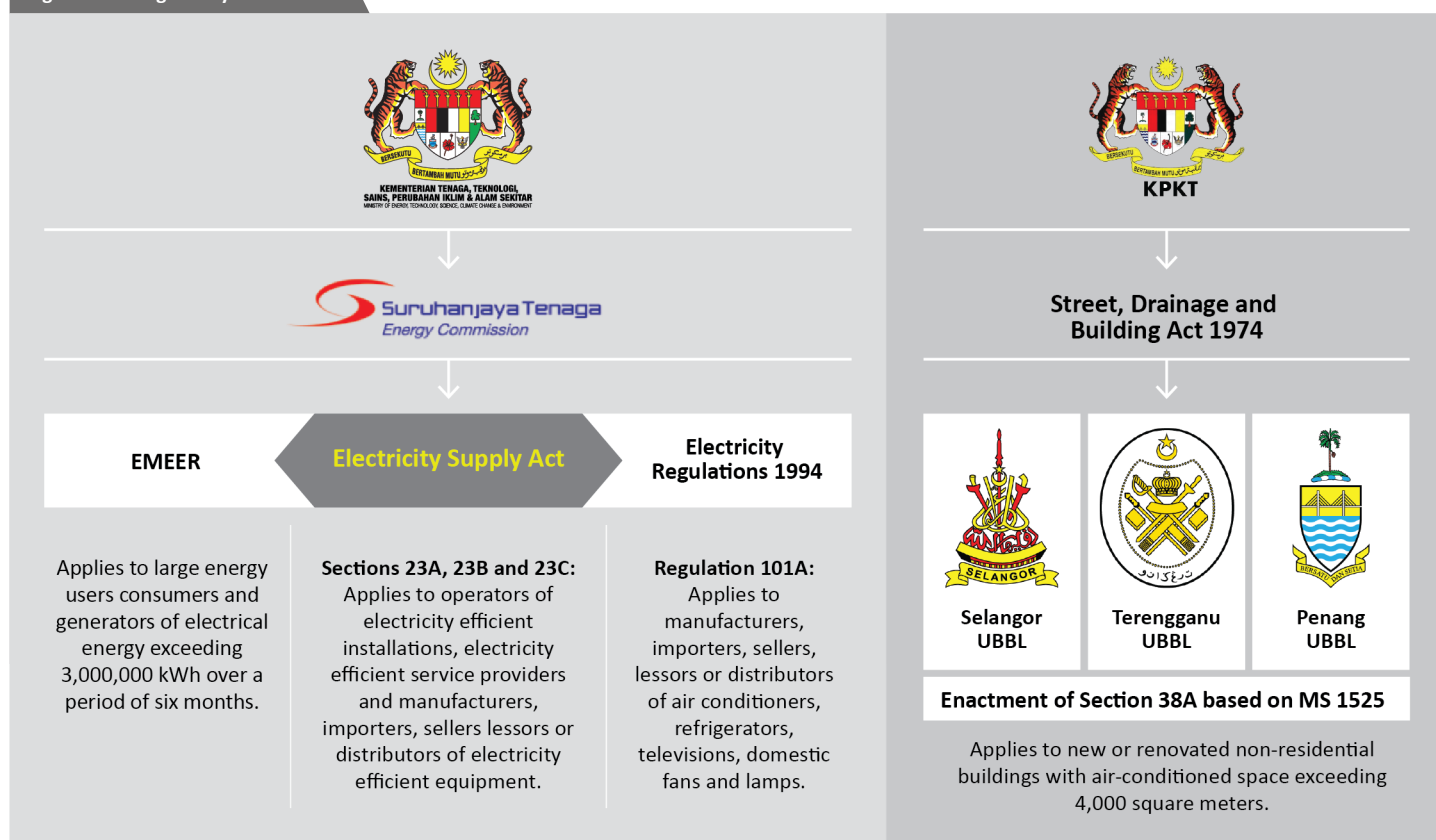
In addition to EMEER, the mandatory minimum energy performance standards (“MEPS”) was introduced in 2013 for select appliances such as air conditioners, refrigerators, fans, televisions and lighting. MEPS works by prohibiting the manufacture, sale or import into Malaysia of appliances that do not meet the energy performance standards prescribed in the Electricity Regulations 1994. This ensures that less energy efficient products are kept out of the Malaysian market, which therefore helps to reduce the amount of energy needed to run the regulated appliances. Moving forward, the coverage

of MEPS should widen to regulate other high-energy consuming equipment and appliances and existing performance standards must continuously be tightened to keep up with technological advances.

Building energy efficiency standards for non-residential buildings – MS1525: *Code of Practice on Energy Efficiency and Use of Renewable Energy for Non-Residential Buildings* was introduced in 2001 and in 2017, MS 2680:2017: *Code of Practice on Energy Efficiency and Use of Renewable Energy for Residential Buildings* was introduced for residential buildings. These building standards are voluntary but there have been efforts to enforce energy efficiency standards for buildings through the incorporation of certain building requirements from MS1525 into the Uniform Building By-Laws 1984 (“UBBL”) at a federal level. These requirements are that new or renovated non-residential buildings with air-conditioned space exceeding 4,000 square metres shall (a) be designed to meet the requirements of MS 1525 relating to the Overall Thermal Transfer Value and the Roof Thermal Transfer Value; and (b) be provided with an energy management system.

Due to the jurisdictional demarcation between the federal, state and local governments in relation to Malaysia’s building regulatory system, the MS1525 requirements must be gazetted by the individual states before it will be adopted into the respective Uniform Building By-Laws of the States and enforced by the local authorities. To date, there are only three states that have gazetted it, i.e. Selangor (2012), Terengganu (2013) and Penang (2016), and this tepid response has been an obstacle in reducing energy consumption in the building sector.

Figure 2: EE Regulatory Framework



Based on Malaysia's current EE regulatory framework, we can see that the efficient management of electricity consumption in the industrial and commercial sectors are addressed by EMEER. The electricity consumption in the residential and commercial sectors is covered under MEPS. The select MS1525 standards in the UBL, though limited, targets improving energy efficiency in the commercial

sector. At the moment, there is no specific legislation to regulate energy efficiency in the transport sector even though it is the largest energy consuming sector (see figure 1). Implementation of adequate policy measures and future legislative efforts on energy efficiency must encompass transport if we want to cover all high-energy consuming sectors comprehensively.

CONCLUSION

Malaysia's projected growth in the years ahead means that we should be ready to increase energy generation for future demand. This should ideally be met through increased renewable generation that protects the environment, secures a stable energy supply, generates new jobs while ensuring that Malaysia meets its international obligations.

This can be achieved through reform of the existing RE Act to provide for new policies such as renewable portfolio standards and renewable energy credits. Nonetheless, grand plans for powering up Malaysia must also be done with a healthy awareness of our energy efficiency potential, so that we would not just do more, but also do more with less.

If you have any questions or require any additional information, you may contact the following person or the ZICO Law Partner you usually deal with.



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