

GREEN SUKUK: FINANCING THE FUTURE TO SUSTAINABLE ENVIRONMENT

Norhayati Abdullah^{1*}

Masri Azrul Nayan²

^{1,2} Centre for Islamic Finance and Research (CIFER) at Universiti Islam Antarabangsa Sultan Abdul Halim Mua'dzam Shah (UniSHAMS).

*Corresponding author (Email: drnorhayati@unishams.edu.my)

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Abstract: Green sukuk is issued to meet the requirements of protection against climate and environmental issues. Green sukuk as an environmental-friendly alternative to customary investing as well as the challenges it faces amidst an unknowing public. The objective of this paper is to identify contracts that can be used for issuance of green sukuk. In addition, this study wants to look at the categories of development projects that can be used in Malaysia. Since green sukuk products are relatively new to the Islamic capital market, the study was more qualitative research using reference material from secondary data. This preliminary study is in the form of an explanatory study to provide investors with an understanding of green sukuk as a new instrument in Islamic finance. The results of this study show that there are several suitable contracts for green sukuk issuance. As well as being aware of project categories available for green sukuk issuance. The results of this study can also provide confidence and boost investor confidence in green sukuk. Through the information generated, it is hoped that this will enhance the wider participation in the green sukuk market.

Keywords: Green sukuk, sustainable environment, environmental projects.

Abstrak: Sukuk hijau diterbitkan bagi memenuhi keperluan perlindungan kepada cuaca dan isu-isu alam persekitaran. Sukuk Hijau sebagai alternatif mesra alam sekitar untuk pelaburan serta cabaran yang mungkin dihadapi olehnya masih tidak diketahui umum. Objektif kertas kerja ini adalah untuk mengenal pasti kontrak-kontrak yang boleh digunakan bagi penerbitan sukuk hijau. Di samping itu, kajian ini ingin melihat kategori projek pembangunan yang boleh digunakan di Malaysia. Memandangkan produk sukuk hijau masih baru dalam pasaran modal Islam, kajian yang dilakukan lebih berbentuk konseptual (kajian kualitatif) menggunakan bahan rujukan daripada data-data sekunder. Kajian awal ini lebih berbentuk kajian penjelasan bagi memberi penerangan kepada pelabur untuk memahami sukuk hijau sebagai instrument baru dalam kewangan Islam. Hasil kajian ini mendapati terdapat beberapa kontrak yang sesuai dalam penerbitan sukuk hijau. Serta dapat mengetahui kategori projek yang boleh dibuat bagi penerbitan sukuk hijau. Dapatan kajian ini juga dapat memberi keyakinan dan meningkatkan kepercayaan pelabur terhadap sukuk hijau. melalui penerangan yang dihasilkan, diharap dapat meningkatkan penyertaan yang lebih luas dalam pasaran sukuk hijau.

Kata Kunci: Sukuk hijau, kemampuan persekitaran, projek-projek persekitaran.

INTRODUCTION

In recent years, there has been a great deal of attention on the issue of Sustainable and Responsible Investment (SRI). One of the focus of SRI is on issues of environmental protection and sustainability. Several green sukuk have been issued to fund environmental-friendly projects. The issue of Malaysia's first green sukuk marks another milestone in Islamic financial product innovation and as sustainable financial centre. Innovations in the issuance of these sukuk could further strengthen Islamic finance in Malaysia. There is even a growing interest in the global market for green financing such as green sukuk as an instrument for financing green projects and social responsibility.

Following successful funding through sukuk, the Securities Commission (SC) of Malaysia through the second Capital Market Plan has introduced a new framework that known as Sustainable and Responsible Investment (SRI) sukuk (Md. Nurdin Ngadimon, 2015). The main focus of SRI is on issues of environmental protection and sustainability. Thus, green sukuk is an important instrument in supporting the positive growth of SRI in today's market (Mohamed Azam Mohamed Adil, 2019).

Green sukuk are Shariah-compliant investments in renewable energy and other environmental assets. Sukuk funds will be used to conserve the environment and natural resources, conserve energy, promote renewable technologies and reduce greenhouse gas emissions (Mohamed Azam Mohamed Adil, 2019). Green sukuk is a new instrument in Islamic finance that requires investors' confidence. This makes a challenge to assure investors of the potential for green sukuk to provide a social impact on the environment and benefits the country's economy. The market therefore needs to provide transparent and reliable information to further increase the participation of issuers and investors in the green sukuk market.

Since green sukuk is relatively new, this article is more conceptual in order to explain to the market participants about green sukuk implementation. Therefore, this study aims to identify the suitability of projects under SRI and to list the projects that have been implemented under SRI. Furthermore, In addition, this study also wants to identify the contracts used in the issuance of green sukuk. Since green sukuk products are relatively new to the Islamic capital market, the study was more qualitative research using references from secondary data. This preliminary study is in the form of an explanatory study to provide investors with an understanding of sukuk as a new instrument in Islamic finance.

LITERATURE REVIEWS

Sukuk

Sukuk is one of the financial instruments in the Islamic capital market. It is a certificate that describes the ownership of a holder of an asset (investment) proportionally structured in accordance with Shariah principles approved by the SAC (Nordin Ngadimon, 2015). A sukuk is an Islamic financial certificate in compliance with the Sharia law. The certificates give partial ownership in the underlying nominated assets or earnings from those assets.

When investors buy sukuk and become sukuk holders, they receive a certificate from the issuer as evidence of ownership and are entitled to receive periodic profit payments on the principal amount invested. Upon maturity, the Sukuk holder will get back the principal amount of investment. As with most Islamic financial instruments, there are different methods of realizing the same objective. Figure 1 illustrated how does sukuk work in the Islamic capital market.

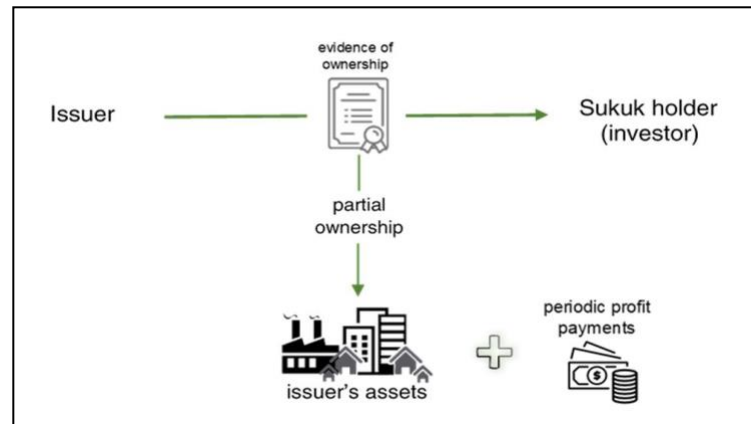


Figure 1. How does Sukuk Work?

Sukuk could be structured on Shariah contract such as *mudharabah*, *musyarakah*, *ijarah*, *istisna*, *wakalah* or hybrid of all these. The return provided to investors therefore come in the form of profit from sale, lease or combination of both.

Green sukuk

In the case of a green sukuk which is an innovation in sukuk types. It covers the financing of investment that would be beneficial to environmental issues. An advantage of green sukuk as it has the potential to attract both green investors and those with Shariah-compliant obligations. Green sukuk is issued to meet the requirements of protection against climate and environmental issues. Green sukuk is an environmental-friendly alternative to financing investments but is still unknown by investors.

Malaysia leads the world in green investment through the introduction of the Islamic Green Sukuk SRI, a source of Shariah-compliant funding, as well as being recognized by the World Bank Group (Ayisy Yusof, 2017). Though, most green sukuk issues are publications for the domestic market. Therefore, companies in Malaysia are encouraged to publish sukuk for the global market in future. The penetration of the global market is necessary if Malaysia is to seek greater funding. The preparation needed to enter the global green sukuk market is to certify that the documentation meets international standards in order to protect potential investors from the risks associated with construction risk. As well as supported by appropriate levels of risk management and insurance.

The world's first green sukuk was issued in July 2017 by Tadau Energy. The 16 years RM250 m (USD58m) deal will finance solar projects in Malaysia. The market has now grown-up to a cumulative total of USD2.13 billion, with all deals but the Indonesian sovereign sukuk coming from Malaysian issuers. To date, Malaysia has maintained its position as the largest global sukuk issuer of US \$ 13.9 billion (US \$ 1 = RM 4.10) out of globally issued sukuk. So

it is not possible that Malaysia could also be the largest issuer in the green sukuk category (RAM Ratings, 2019).

Any entity which has suitable green assets can issue green bonds, green sukuk or obtain green loan. Suitable green assets include renewable energy, low carbon transport, low carbon buildings, sustainable water and waste management, sustainable land use as well as climate change adaptation measures such as flood defences.

“The structuring of a green sukuk wouldn’t be much different from that of a normal sukuk. The sukuk’s structure would largely depend on the available of green assets to support the sukuk or the environmentally friendly project to be financed,” says Hari Rai, Dubai-based partner of international law firm Latham & Watkins. “Given the size of the global sukuk market, it is almost surprising that Islamic banks and sovereigns have so far not really tapped into the potential of a green sukuk,” he adds.

There have been some current examples, though. In Malaysia, the largest sukuk issuer globally, a local lender has introduced green mortgages to facilitate installation of solar systems, while an Islamic bank in Jordan is developing alternatives to medium-term loans to fund energy efficient and renewable energy projects. There have also been new initiatives to promote green sukuk, namely the Green Sukuk and Working Party (GSWP), jointly established by Masdar City’s Clean Energy Business Council, the Mena branch of the Climate Bonds Initiative and the Gulf Bond and Sukuk Association. It objectives to promote and develop Shariah-compliant financial products to invest in solutions that seek to prevent climate change. The scope of green sukuk can be quite substantial. They can not only be used to finance construction of green developments or infrastructure, but also to refinance construction or project debt or to finance the payment of a government-granted green subsidy. Suitable assets for green sukuk as per the international Climate Bond Standards include solar parks, bioenergy plants, wind energy, clean water, hydropower and agricultural irrigation projects, energy efficiency applications and low-carbon buildings, low-carbon land use, electric vehicles and infrastructure, geothermal energy and marine-related environmental projects.

Nevertheless, who is willing to contribute to a cleaner environment by investing into a green sukuk should also take into account the challenges as with any other investment, for that matter. While demand for green sukuk will certainly increase in the future and Gulf governments are likely to promote them more extremely, they involve a higher risk profile than conventional sukuk while the secondary market for them is still small and performance measurement standards for the segment aren’t developed yet.

Sustainable and Responsible Investment (SRI)

SRI is one of element in the sustainable development. Sustainable development is about using better way to satisfy the demands of population. It should be seen as meeting the needs of the current generation without compromising the need of future generations.

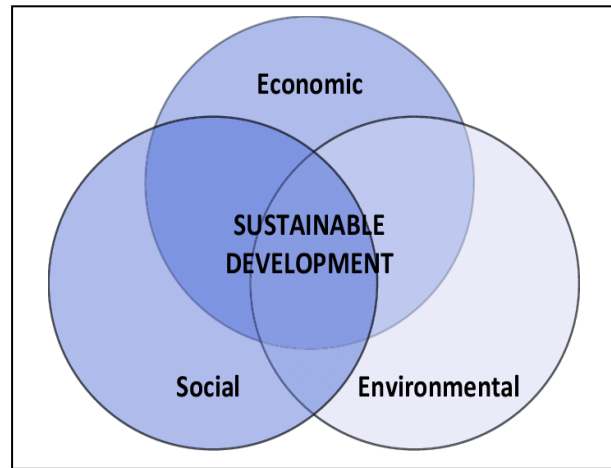


Figure 2. Sustainable Development Model

SRI is the concepts of making investment decisions that take into account not only financial returns but also the impact on the environment and social development. Therefore, the SRI approach ponders three criteria. ESG criteria generally known as Environmental, Social and Governance factors. Portfolio selection and management of investments would therefore integrate the ESG criteria.

As the principles of Islamic finance share significant commonalities with SRI, there are also remarkable opportunities for Islamic finance to develop instruments and funding solution that provision the global demand for green projects.

With SRI gaining acknowledgment in the market, green finance has also made its ways into the market. Green finance covers the financing of investments that would create environmental benefits as portion of their project strategies to realize sustainable development for the future. These environmental benefits comprise reducing all types of pollution, reducing greenhouse gas emission, improving energy efficiency for example wind energy and taking measures in order to lessen climate change.

In August 2014, Securities Commission (SC) launched the SRI Sukuk Framework for the purpose of financing various SRI initiative. Malaysia's efforts to make SRI successful through the issuance of the green sukuk were also reinforced by London Mayor Alderman Peter Estlin. He recognizes Malaysia's role and knowledge in sukuk issuance. Malaysia is the largest contributor to 50% of global publications and the earliest group leading green sukuk innovation (Seet Wei & Hanzah Hanim, 2019).

The Green Technology Master Plan 2017-2030 (GTMP) launched in 2017 has drawn the country's strategic green technology plan, aimed at creating a low carbon economy. The GTMP puts the ground for a holistic approach to socio-economic development, while following to the principles of sustainability, outlining initiatives covering six key sectors namely energy, manufacturing, building, transport, waste and water (Maximus Ongkili, 2017). The energy sector in Malaysia has grown much more reliant on fossil fuels to diversify renewable sources. Maximus also believed Malaysia is dedicated to decreasing the intensity of greenhouse gas emissions from Gross Domestic Product or GDP by 45% by 2030 under the Paris Agreement.

METHOD

Since green sukuk products are relatively new to the Islamic capital market, the study was more qualitative research using reference material from secondary data. This preliminary study is in the form of an explanatory study to provide investors with an understanding of sukuk as a new instrument in Islamic finance. The information obtained will be analysed using content analysis.

FINDINGS

Identify The Suitability of The Project Under SRI

In 2014, the Securities Commission (SC) revised the sukuk issuance guidelines by introducing new requirements for the issuance of SRI green sukuk. The new guidelines outlined how green sukuk products can be used to conserve environmental and natural resources, conserve energy, promote renewable energy use and reduce the impact of greenhouse gas emissions. The SC also listed the eligibility for the SRI project. Some of the projects that are aligned with the goals of the SRI are summarized in Table 1. In addition, projects focused on finding renewable energy, projects related to the development of waqf assets and community economic improvement programs can also be included in the SRI project.

Table 1. The project category under the Green Sukuk/SRI plan

Natural Resources	Renewable Energy	Economic Development and Community	Waqf Asset
Use of sustainable land	New renewable or existing energy	Public / medical services	Property / asset development
Sustainable forestry or agricultural	Powerful power generation and transmission systems	Public education services (Eg: Sukuk Ihsan by Khazanah Nasional Bhd)	
Biodiversity preservation	Power generating system and efficient transmission of Energy efficiency resulting in reduction of greenhouse gas emissions or energy consumption per unit output	Community services	
Recovery and redevelopment of contaminated sites		Urban revitalization	

Source: Mohamed Azam Mohd Adil (Royal Chulan KL, 11 April 2019)

Malaysia has magnificently founded the establishment of SRI sukuk in Ringgit dominance to fund social responsibility in the arena of education. This effort was carried out by Khazanah Nasional Bhd through a special purpose company (SPV), Ihsan Sukuk Bhd. to issue SRI sukuk (Nurdin Ngadimon, 2015). This sukuk was issued to finance education-related programs to at least 20 schools as part of efforts to support and expand innovation for development in Islamic finance since the activities are related for the development of the local community. Yayasan Amir is not for-profit foundation recognized by Khazanah for the enhancements of accessibility of quality education in Malaysian government schools through

a Public-Private Partnership with the Ministry of Education (www.capitalmarketmalaysia.com).

List of Projects Implemented Under SRI Projects

Green sukuk, like other SRI instruments, are funding channels that play an important role in environmental protection and climate change. There is strong compatibility between sukuk and green project financing as both are based on responsible investment principles and ethical financing.

Initially, the SRI sukuk project was more focused on the production of renewable energy (solar power). To date, five green sukuk have been issued by solar companies in Malaysia to finance RM886.8 million solar power projects since July 2017. These projects have been carried out in several states in Malaysia. While the first issue of green sukuk by Danajamin Bhd. signifies the company's support in supporting environmentally sustainable infrastructure projects in Malaysia. The green sukuk projects in Malaysia are summarized in Table 2.

Table 2: List of green sukuk projects that have been implemented

Year	Company-Project	Value (RM)	Location
July, 2017	SRI Green Sukuk Tadau (Solar photovoltaic construction)	RM 250 million	Kudat, Sabah
October, 2017	Quantum Solar Park Malaysia Sdn Bhd (Construction of Southeast Asia's largest solar photovoltaic plant)	RM 1 billion	3 Daerah (Gurun, Kedah, Jasin, Melaka dan Merchang Terengganu)
December, 2017	PNB Merdeka Ventures Sdn Bhd. Construction of 83rd floor Merdeka tower PNB118 (green building)	RM 2 billion	Jalan Stadium, Kuala Lumpur
January 2018	Sinar Kamiri Sdn Bhd (49MW solar photovoltaic facilities development)	RM 245 million	Sungai Siput, Perak
April, 2018	UiTM Solar Power Sdn Bhd (a subsidiary of UiTM) 50MW solar plant development and operation	RM240 million	Gambang, Pahang
February, 2019	Pasukhas Green Assets Sdn Bhd (Subsidiary of Danajamin Nasional Bhd) - Asean Green SRI Sukuk -Hydropower plant	RM17 million (20 years)	Sungai Rek, Kelantan

Looking at the projects that have been implemented, Malaysia is on the right track to become a world leader in SRI. Malaysia headed the world in green investment through the introduction of the SRI Green Sukuk, supported by a Shariah-compliant financial system, and gained World Bank group recognition. The first issuance of RM250 million for solar projects to Tadau Energy and RM1 billion for Quantum Solar Park Malaysia, the world's largest green sukuk production to build Southeast Asia's largest solar power project, has put Malaysia on the world map as the leader in SRI.

This green sukuk project is focused on generating renewable energy through solar energy. This is because Malaysia can collect three kilowatts per hour of electricity per square meter of solar as the country is located near the Equator. For biomass and biogas, it can be produced through waste generated and collected by local authorities in addition to agricultural waste such as rice husks and oil palm residues (Mukhriz Tun Mahathir, 2019).

In addition, these renewable energy sources focus on the development of solar, biogas, biomass and hydroelectric energy.

To Identify Contracts That Can Be Used For Green Sukuk Issuance

The issuance of a large-scale green sukuk amounting to RM250 million for the development of the solar project by Tadau and RM1 billion by the Quantum Solar Park Malaysia, the world's largest green sukuk issuance aims to build the largest solar power project of its kind in Southeast Asia, putting Malaysia on the world map as a leader in green investment.

This green sukuk restructuring can use as many contracts as regular sukuk. Most use hybrid sukuk as each phase of the sukuk project development can change. For example Green sukuk issued by Tadau Energy is structured on the principles of *istisna'* (manufacturing sale) and *ijarah* (leasing) with a tenure of two to 16 years (Mohammad Mahbubi, 2018). This hybrid sukuk also known as *ijarah mawsufah fi al-zimmah*. This sukuk is a forward-lease contract for a project under construction. It involves the sale of basic assets that are being made or built for future delivery. Through this contract, the sukuk issuer financially makes payments during the construction period, while the investors makes payments within a certain period of time until the project is completed.

Hybrid sukuk is a type of sukuk whose structure consists of two underlying contracts or more both equity and debt elements do exist. Tadau energy acts as an issuer. Investors who are the sukuk holders refer to the sukuk subscribers at the time of offer or buyers of sukuk from the secondary market.

The second green sukuk project to be seen here is BEWG (M) Sdn. Bhd. (Solar photovoltaic). The *wakalah* sukuk contract was used in this project. BEWG (M) acts as a "wakeel investment" to sukuk holders. Operationally, *wakeel* has the role of determining *wakalah* sukuk investments into relevant portfolio investments or *wakalah* investments. Therefore, "wakeel investment" agrees to provide its expertise and management for a period of time.

The relationship between the principal and the investor is in compliance with certain basic conditions set out in the contract. The *wakalah* fee must be determined and agreed upon ingoing the *wakalah* contract. In terms of return on investment, the sukuk holder can only receive the expected profit, the amount used to fund the amount of the periodic distribution. Any excess profit will be held by the "investment wakeel" as his own. The periodic return will be paid to the investor on the date agreed upon in the agreement.

This paper also looks at the contract used by Sarawak Hidro Sdn. Bhd., fully owned by the Sarawak state government. The project is directly involved in providing 2,400 MV (Bakun Hydro Electric plant) the largest hydroelectric plant in Malaysia. The project is located in Central Sarawak at the Rejang River, 180 km by road. The walls of the dam are constructed of 205 meters high concrete walls overlooking the dam. The cost of this hydroelectric dam is estimated at around USD \$ 1.6 billion. The Sarawak Green Hydro Sukuk was issued using a

sukuk *murabahah* contract. Sukuk *murabahah* refers to a contract of exchange based on a sale and purchase contract with a fixed cost and profit. Sukuk *murabahah* is usually used to buy goods by the public sector. In this case, Sarawak Hydro bought the project at a high price. However, the payment can be made on credit or paid in instalments.

Sarawak Hydro as the seller will settle the cost and profit margin during the installment period. At the same time, Sarawak Hydro as the issuer will issue a certificate of sukuk *murabahah* on a regular basis (Yusoff, Kamdari, & Malik, 2016). Each certificate with a due date, representing the rights of the holder of the sukuk on its basis, the holder of the sukuk may transfer the other rights to the other party.

As a conclusion, based on the examples of sukuk above it is found that green sukuk can be structured through various contracts. It's depends on the type of project that the green sukuk will finance.

Table 3. Contracts Used For Green Sukuk Issuance.

Company-Project	Contract used
SRI Green Sukuk Tadau (Solar photovoltaic construction)	<i>Ijarah mawsufah fi al-zimmah/ Hybrid (istisna'</i> (manufacturing sale) and <i>ijarah</i> (leasing)
BEWG (M) Sdn. Bhd. (Solar photovoltaic).	The <i>wakalah</i> sukuk
The Sarawak Green Hydro Sukuk	Sukuk <i>murabahah</i> contract. Sukuk <i>murabahah</i> refers to a contract of exchange based on a sale and purchase contract with a fixed cost and profit. Sukuk <i>murabahah</i> is usually used to buy goods by the public sector.
Sukuk Ihsan (Khazanah Bhd)-	<i>Wakalah bil Istithmar</i>

CONCLUSION

The issuance of sukuk becomes more attractive as it focuses on sustainable financing. Green sukuk is indeed a requirement for preserving the environment in various angles. There are various projects that can be funded by green sukuk whether in the generation of natural resources, renewable energy, contributions to society and even in the field of *waqf* assets. However, if Malaysia wants to attract global investors, it will need to provide a clearer investment policy to enter the global market. There are still have an of opportunities for market participants to explore. In addition, the issuance of green sukuk has received tax exemption incentives for several years as announced in Budget 2020. The impact of green sukuk is not only established by investors, but also will beneficial to the community and society in general. Ultimately the sustainability of nature continues will be enjoyed by future generations.

REFERENCES

- Ayisy Yusof. (2017, October, 25). Malaysia's Green Islamic Sukuk funds green tech projects. New Strait Times.
- Haneef, R. (2016), Retail Sukuk and SRI Sukuk: The Malaysian Experience. Retrieved on 1 November 2019, from <https://www.researchgate.net/publication>
- Md. Nurdin Ngadimon (2015). Pembangunan Wakaf: Pendanaan Melalui Sukuk Sustainable and Responsible Investment (SRI). Paper presented at the 11th Muzakarah of Shariah

- Advisers in Financial Institutions in Malaysia, organized by JAKIM, at the Sasana Kijang Conference Hall, Bank Negara Malaysia (BNM) on November 12, 2015.
- Niam Seet Wei Dan Harizah Hanim Mohhamed. (2019 July, 21). "Malaysia Boleh Manfaatkan Pelabur Sukuk di UK Dengan Dasar Sesuai-Datuk Bandar".BERNAMA.
- Mohamed Azam Mohamed Adil (2019). Peluang dan Cabaran Sukuk Hijau. Royal Chulan, Kuala Lumpur.
- Mohammad Mahbubi Ali (2018). Malaysia's Green Sukuk. Retrieved on 1 November 2019, from <https://ifikr.isra.my/columns/post>
- Mushtak Parker (2017). Malaysia's Green Sukuk Going Places. Retrieved on 4 November 2019, from <https://www.nst.com.my/opinion/columnists>
- Siti Rohaya Mat Rahim & Zam Zuriyati Mohamad (2018). Green Sukuk for Financing Renewable Energy Projects. Turkish Jurnal/Islamic Economics (TUJISE). Retrieved on 1 November 2019, from <https://www.tujise.org/content/7-issues>
- RAM Rating Report, 2019. Retrieved on 2 Nov 2019, from <https://www.ram.com.my>
- n.a, (2019, July 22). "Kedah lancar Pelan Induk Tenaga Hijau dan Tenaga Boleh diperbaharu" BERNAMA.