MINISTRY OF ECONOMY
DEPARTMENT OF STATISTICS MALAYSIA

STATISTICAL CAPACITY BUILDING PROGRAMME ONLINE TRAINING COURSE

SDG GOAL 7:
"AFFORDABLE AND CLEAN ENERGY INDICATORS"

MALAYSIA'S SDG 7 INDICATORS

Fariza Kambut
Agriculture and Environment Statistics Division
Department of Statistics Malaysia
14-15 Mac 2023

BANCI EKONOMI 2023
DATA PEMANGKIN EKONOMI NEGARA

20 OCT

2016 - 2030

PSSN

StatsMalaysia
www.DOSM.gov.my

OUTLINE

CONTENTS

SDG GOAL 7 OVERVIEW

StatsMalaysia
www.DOSM.gov.my

SDG GOAL 7 OVERVIEW

AFFORDABLE AND CLEAN ENERGY

ENSURE ACCESS TO AFFORDABLE, RELIABLE, SUSTAINABLE AND MODERN ENERGY FOR ALL

Energy is essential for the well-being and economic development of a country. The need for energy must be in line with the growing population and expanding industrial as well as commercial sectors. Hence, Malaysia expedited the accessibility of electricity, continues to improve energy efficiency and increase the use of renewable energy.

5 Targets	6 Indicators
7.1: Universal access to modern energy	**7.1.1:** Proportion of population with access to electricity
	7.1.2: Proportion of population with primary reliance on clean fuels and technology
7.2: Increase global percentage of renewable energy	**7.2.1:** Renewable energy share in the total final energy consumption
7.3: Double the improvement in energy efficiency	**7.3.1:** Energy intensity measured in terms of primary energy and GDP
7.a.1: Promote access, technology and investments in clean energy	**7.a.1:** International financial flows to developing countries in support of clean energy research and development and renewable energy production, including in hybrid systems
7.b.1: Expand and upgrade energy services for developing countries	**7.b.1:** Installed renewable energy-generating capacity in developing countries (in watts per capita)

SDG GOAL 7 OVERVIEW

TWELFTH MALAYSIA PLAN (2021-2025)

- Aims to achieve the objective of a **"Prosperous, Inclusive, Sustainable Malaysia",** focusing on three Themes:
  - Resetting the economy
  - Strengthening security, wellbeing and inclusivity
  - Advancing sustainability

- Energy efficiency measures - through properly balancing energy security, affordability and sustainability

Introduction of a comprehensive National Energy Policy

31% Renewable Energy (RE) of total installed capacity

Sources: Twelfth Malaysia Plan, 2021-2025 (epu.gov.my)

SDG GOAL 7 OVERVIEW

TWELFTH MALAYSIA PLAN (2021-2025) *Cont'd*

Chapter 8: Advancing Green Growth for Sustainability and Resilience

1. **Implementing a Low Carbon, Clean and Resilient Development**
   - Towards a low carbon country
   - Accelerating the transition to a circular economy
   - Promoting shared responsibility in preventing pollution
   - Enhancing resilience to climate change and disasters

2. **Managing Natural Resources Efficiently to Safeguard Natural Capital**
   - Strengthening environmental governance
   - Increasing green financing and investment
   - Cultivate a sense of ownership and shared responsibility

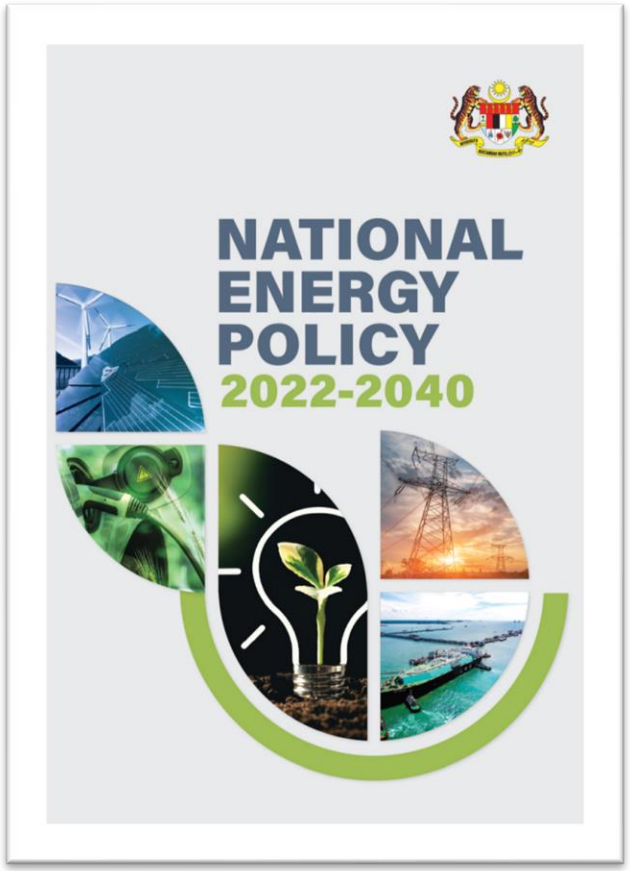
3. **Strengthening the Enabling Environment for Effective Governance**
   - Increasing green financing and investment
   - Cultivate a sense of ownership and shared responsibility

Chapter 9: Enhancing Energy Sustainability and Transforming the Water Sector

1. **Ensuring Sustainable Energy for All**
   - Strengthening the energy sector
   - Ensuring a sustainable and progressive oil and gas subsector
   - Strengthening the electricity subsector

2. **Transforming the Water Sector**
   - Empowering the people
   - Strengthening governance at all levels
   - Improving data-based decision making capabilities
   - Ensuring sustainable financing
   - Developing sustainable infrastructure with cost-effective technologies

SDG GOAL 7 OVERVIEW



NATIONAL ENERGY POLICY 2022-2040

The National Energy Policy was formulated to achieve the 3 objectives :

- Ensuring adequate, secure, quality and cost-effective supply of energy
- Promoting efficient utilization of energy
- Ensuring factors pertaining to environment protection are taken into consideration in the production and utilization of energy

Energy sector and energy-intensive industries contributes as much as **28.0** per cent to Gross Domestic Product (GDP) and **25.0** per cent of the total workforce

31% Renewable Energy (RE) of total installed capacity

The contribution target of Renewable Energy (RE) sources is **17.0** per cent (2040) with energy mix from 7.2 per cent in 2018. Natural gas is the largest contributor to the main energy supply which is **41.0** per cent

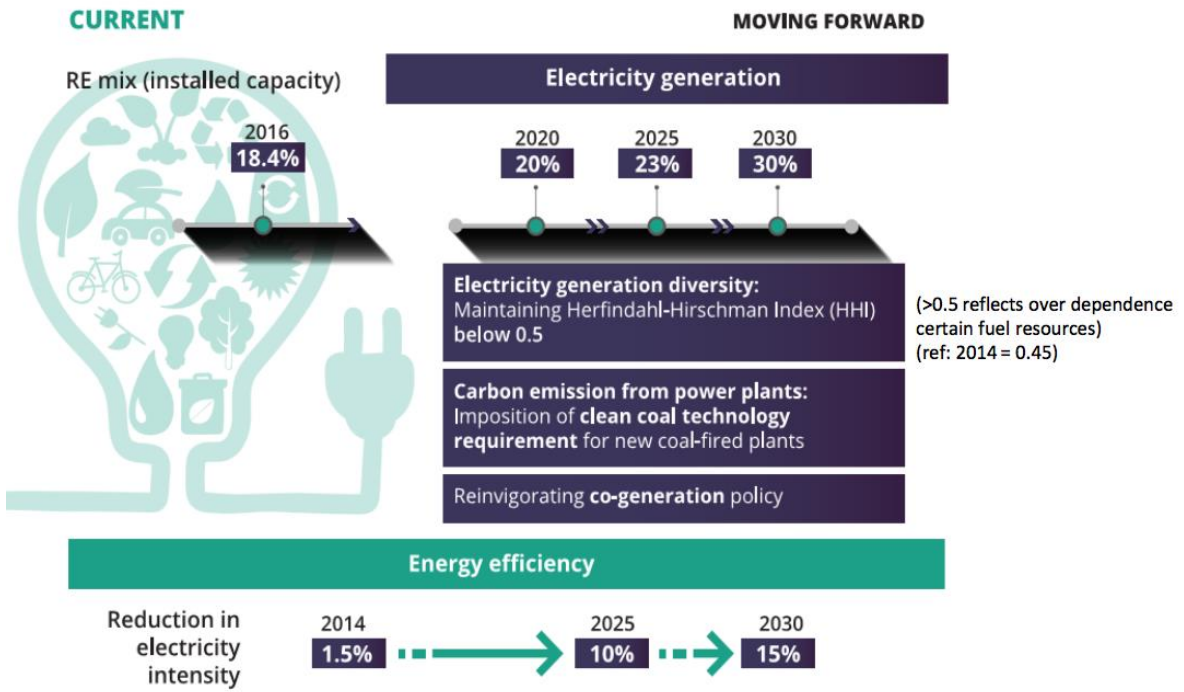
SDG GOAL 7 OVERVIEW

Sources: gtmp.pdf (greentechmalaysia.my)

GREEN TECHNOLOGY MASTER PLAN MALAYSIA 2017-2030

The Green Technology Master Plan (GTMP) is fundamentally an outcome of the Eleventh Malaysia Plan (2016-2020) which has earmarked green growth as one of six game changers altering the trajectory of the nation's growth.

The GTMP creates a framework which facilitates the mainstreaming of green technology into the planned developments of Malaysia while encompassing the four pillars set in the National Green Technology Policy (NGTP) i.e. energy, environment, economy and social.



SDG GOAL 7 OVERVIEW

MALAYSIA 4TH BIENNIAL UPDATE REPORT

Sources: Malaysia. Biennial update report (BUR). BUR 4. | UNFCCC

Malaysia's 4th Biennial Report is developed according to the United Nations Framework on Climate Change (UNFCCC) Decision 2/CP.17. The report provides the updated information reported in the 3rd Biennial Report on national circumstances, greenhouse gas (GHG) inventory, progress in mitigation policies and actions, as well as on support received and needs.

Mitigation action

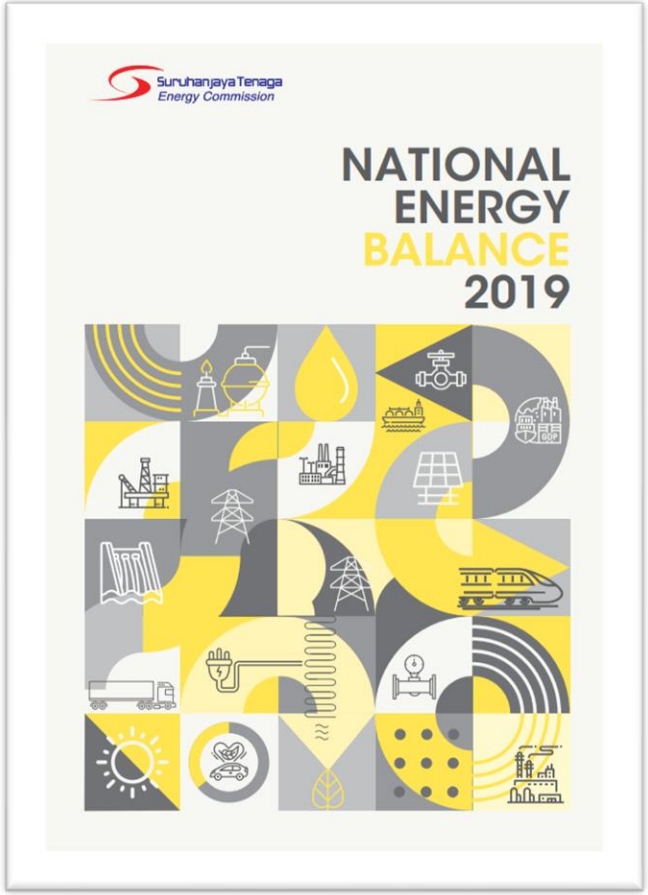
The generation of electricity from renewables energy sources are from five major RE programs, namely RE implementation through Feed-in Tariff (FiT) mechanism, RE generation from public and private licensees, hydropower generation, Net-Energy Metering (NEM) mechanism and Large-Scale Solar (LSS) program.

Result from these programmes

Renewable Energy (RE) generation amounted to **28,875** GWh in 2019 increased 2.6% compared to **28,138** GWh in 2018.

CO_2 Emission reduction recorded **10,134.67** Gg CO_2 eq. in 2019. The largest contribution to emission reduction from renewable electricity is through hydropower generation, which contributes **90%**

SDG GOAL 7 OVERVIEW



NATIONAL ENERGY BALANCE

The National Energy Balance (NEB) was published annually by Energy Commission Malaysia. The first stage in compiling the overall energy balance is to rearrange the data to fit into a standard structure of commodity (or partial) balance. The commodity balance shows clearly the production, imports, exports, stock change and consumption for each energy commodity. The basic sequence adhered to in the overall balance is:-

Production + Imports – Exports +/- Stock Change = Apparent inland deliveries (or consumption)

In summary, the flow of energy is represented by the following equations:-

Primary Energy Supply = Production + Imports – Imports - Bunkers +/- Stock Change

Energy Consumption = Gross inland consumption
= Final energy consumption
+ Consumption of the energy transformation sector
+ Distribution losses
+ Non-energy consumption

Sources: Publications - Malaysia Energy Information Hub (st.gov.my)

INITIATIVE MALAYSIA ON AFFORDABLE AND CLEAN ENERGY

Minister: Govt hopes to boost renewable energy growth with net metering programme

The NEM programme is a solar photovoltaic (PV) initiative by MESTECC to encourage Malaysia's renewable energy uptake. — Thomson Reuters Foundation pic

Follow us on Instagram, subscribe to our Telegram channel and browser alerts for the latest news you need to know.

Tuesday, 19 Mar 2019 6:20 PM MYT

KUALA LUMPUR, March 19 — The government is looking into energy efficiency and renewable energy (RE) to reduce electricity bills and decarbonising the government's administration, said Minister of Energy, Science, Technology, Environment, and Climate Change (MESTECC), Yeo Bee Yin.

In a statement from the Sustainable Energy Development Authority (SEDA) today, she said by introducing new policies like the net energy metering (NEM) programme, the government hopes it can catalyse and scale up the RE growth in the country.

The NEM programme is a solar photovoltaic (PV) initiative by MESTECC to encourage Malaysia's renewable energy uptake.

Under the programme, energy produced from the installed solar PV system will be consumed first, and any excess exported to Tenaga Nasional Bhd (TNB) on a "one-on-one" offset basis.

GREEN SERIES

Towards greener pastures

> Interview with KeTTHA secretary-general on Malaysia's green plans and the recently announced Green Technology Master Plan

At the International Urban Sustainability & Green Building Conference (USGBC)-2017, Datuk Seri Dr Zaini Ujang said in his opening speech that the urban population in Kuala Lumpur is expected to increase to 10 million by 2030 and that 60% of the world's population will be living in cosmopolitan cities; thus, living spaces will need to be cleaner and greener.

The Energy, Green technology and Water Ministry (KeTTHA) secretary-general also informed the audience that Malaysia is ranked 42 among the world's happiest nations and is fourth globally in terms of green cover. "Putrajaya is expected to become 'fully green' with 40% green cover by 2025. It can be a model for the world," Zaini said, sharing the good news before making known the arduous tasks that follow with the ministry's introduction of the Green Technology Master Plan (GTMP) on Oct 12.

The GTMP embodies the Eleventh Malaysia Plan (2016 – 2020) or 11MP, which had earmarked the need for green growth across six sectors. Its aim was to accelerate the course of the nation's growth and revolutionise its socio-economic development. The master plan focuses on six areas, building and property included; hence, we will be focusing on this area over the next few weeks.

IN THE BEGINNING

For decades, governments and world energy councils carried out scientific studies, experimenting and analysing various methodologies and techniques to generate energy. The reason was simply because it was a necessity in sustaining future generations, like oxygen is to life. While the world realised it needs to generate energy to meet societies' future needs, it also learnt of causal effects of greenhouse gasses (GHG), a "by-product" of energy consumption, which results in global warming and causes adverse climate conditions; hence, the need to generate energy conscientiously and consume it cleverly.

The outcome: the adoption of Green Technology (GT) found to supply renewable energy (RE), but requires the use of green practices and sustainable methods of process across green building, green purchasing, green chemistry, green nanotechnology, green lifestyles, etc. This is why the National Green Technology Policy (NGTP) was formed and introduced in 2009, spearheaded by KeTTHA. It focused on energy, the environment, the economy and social aspects. 11MP emphasised the need to pursue GT. It basically campaigned for strengthening the enabling environment, promoting sustainable consumption, conserving natural resources, and strengthening resilience against climate change and natural disasters.

DEEPER GREEN

Wanting to reinforce its "green stance", the government signed the Paris Agreement in 2015. The document called for nations to expedite global efforts to mitigate worsening climate conditions. In the agreement, Malaysia pledged to reduce its GHG emissions by 45% by 2030, spurring the establishment of a new gameplan to fulfil the pledge. Comprising 17 Sustainable Development Goals (SDGs) constituted under the Nationally Determined Contribution (NDC) banner; GT-pertinent issues deliberated included the pressing need for clean water and sanitation; affordable and clean energy; sustainable cities and communities; responsible consumption and production; and climate action.

While many Malaysians would ask why the need to set up various policies and plans instead of focusing on one at a time, Zaini responds, justifying the need to constantly develop and grow to move forward as the rest of the world is, as more knowledge and information is attained in addressing the challenges to meet the SDGs.

In drafting the new GTMP, KeTTHA received full support. Twenty consultations were conducted with stakeholders involving over 300 representatives from the government, various industries, NGOs and the academia. The objective of the GTMP: "to drive further economic growth as the plan, once it succeeds, expects to bring in RM160 billion; garner a cleaner environment for better lifestyles for future generations; and enhance well-being for the people while at the same time protect nature, impede global warming and improve the environment on the whole," informs Zaini. "At the end of the day, we want to be a green player, not a green consumer," he adds.

The GTMP does not phase out the targets set for 2020 and 2030. Instead it acts as a catalyst to drive the green issues and step up efforts to achieve the objectives targeted for 2020 and 2030, which aims to bridge the gap and shorten the time taken to becoming a high-income nation driven by green growth.

Follow the second part of the interview with the KeTTHA secretary-general in next week's section.

Datuk Seri Dr Zaini Ujang

▶ Email your feedback and queries to: propertyqs@thesundaily.com

Targets in building sector

SECTORS / AREAS	2020	2025	2030
SUSTAINABLE CONSTRUCTION PRACTICE			
Active design - MEPS	• MEPS law • 11 appliances • Upgrade current MEPS ratings	• 16 appliances • Harmonise MEPS rating to ASEAN SHINE	• All appliances • Universal MEPS rating
Number of certified buildings	• 550	-	• 1,750
Passive design - BEI	• Building energy regulation • BEI 120	• Sectoral BEI 90	• Sectoral BEI <60
SUSTAINABLE CONSTRUCTION PRACTICE			
Construction method - IBS	• Public projects score 70 - 100% • Private projects score 50 - 100%	• New technologies i.e. automated brick laying, etc.	
Construction waste	• To be determined		
GREEN BUILDING MATERIALS			
Raw materials Recycle content	• To be determined. • % recycled content in concrete and other materials		

The headquarters of Energy Commission of Malaysia, which is known as the Diamond Building, in Putrajaya.

Energy Commission announces 500MW large scale solar tender

CORPORATE NEWS

Thursday, 14 Feb 2019

9:53 AM MYT

PETALING JAYA: The Energy Commission (EC), today announced it is requesting proposals for the development of large scale solar photovoltaic plant (LSS).

In an advertisement in StarBiz, the EC said the plant would be connected to the grid and sell its energy to Tenaga Nasional Bhd under a power purchase agreement.

"The LSS capacity to be tendered will be from 1MW to 100MW with a target aggregate capacity of 500MW in Peninsular Malaysia, which is expected to be commission in 2021," the EC said.

It has been reported that the Government will undertake an open tender in 2019 for an estimated RM2bil worth of projects under the third cycle of the LSS3 scheme, to increase electricity generation from renewable energy (RE).

The projects are in addition to ongoing LSS projects to produce 958MW of electricity between the end of this year until 2020.

Solar accounts for about 67% of Malaysia's RE capacity while biogas and biomass account for the second largest portion at 28%.

The closing date for the completed request for proposal submission will be before 5pm on Aug 19, 2019.

24

Rabu, 17 Ogos 2022

Gas asli bakal ganti arang batu secara berperingkat

Gas asli bakal menjadi sumber bahan pembakaran fosil paling bersih menggantikan arang batu yang akan ditamatkan penggunaannya di Malaysia secara berperingkat.

Timbalan Menteri Tenaga dan Sumber Asli, Datuk Ali Biju, berkata sejak beberapa tahun kebelakangan ini, dorongan terhadap peralihan tenaga sudah menjadi lebih jelas.

Katanya, peralihan Malaysia ke arah sistem tenaga rendah karbon memerlukan penyediaan kuasa dalam negara membangunkan dua loji jana kuasa turbin gas kitaran gabungan (CCGT), iaitu Loji Jana Kuasa Edra Melaka dan Stesen Jana Kuasa Sultan Iskandar yang membekalkan 5,982 megawatt (MW) tenaga elektrik kepada grid nasional.

"Malaysia kini menempatkan CCGT terbesar di Asia Tenggara dan salah satu pejana kuasa gas terbesar di rantau ini.

Cuma

"Dengan penghapusan penggunaan arang batu secara beperingkat, gas asli sudah menjadi bahan pembakaran fosil paling bersih yang memainkan baik sumber tenaga boleh diperbaharui serta memastikan bekalan elektrik yang berterusan.

"Penggunaan teknologi CCGT untuk penjanaan tenaga sudah terbukti berkesan dan ada penambahbaikan berterusan dalam teknologi kecekapan tenaganya," katanya.

Beliau berkata demikian ketika menyampaikan ucapan penyimian pada Sidang Kemuncak Perjanaan Kuasa Turbin Gas Global di Kuala Lumpur, semalam.

Mengulas lanjut, Ali berkata, penggunaan gas asli secair akan menjadi penting untuk peralihan Malaysia kepada tenaga bersih dan akan kekal sebagai bahagian utama dalam kebanyakan sistem tenaga untuk beberapa dekad yang akan datang, sehingga pengganti karbon rendah seperti hidrogen boleh diskala secara meluas.

Ali Biju

MINISTRY OF ECONOMY
DEPARTMENT OF STATISTICS MALAYSIA

INITIATIVE MALAYSIA ON AFFORDABLE AND CLEAN ENERGY

StatsMalaysia
www.DOSM.gov.my

Projek Hidroelektrik Nenggiri komitmen TNB untuk tenaga hijau

PETALING JAYA: Pembinaan Projek Hidroelektrik Nenggiri oleh Tenaga Nasional Berhad (TNB), membantu kerajaan menuju sasaran 31 peratus kapasiti Tenaga Boleh Baharu (TBB) dalam pembekalan elektrik negara pada 2021 dan 40 peratus menjelang 2035.

Menurut TNB, apabila beroperasi kelak, projek itu akan menyumbang secara purata unit dijana sebanyak 600 Gigawatt jam setahun, sekali gus menghindari pelepasan 355,000 tan karbon dioksida (CO2) oleh operasi loji haba (bahan api fosil).

Jelasnya, ia juga menterjemahkan sokongan kuat TNB melalui Hala Tuju Kelestarian 2050 TNB (TNB Sustainability Pathway 2050) dengan sasaran pelepasan karbon sifar bersih, selari komitmen syarikat utiliti negara itu terhadap agenda alam sekitar, sosial dan tadbir urus (ESG).

"Projek bernilai RM5 bilion yang bakal menjana 300MW itu apabila siap pada 2026, membawa faedah berlipat ganda kepada Kelantan bukan sahaja dari segi mengurangkan kesan banjir dan kemarau, bahkan boleh merangsang pelbagai kegiatan ekonomi melampaui komuniti setempat," katanya dalam kenyataan.

PENGARAH Urusan Genco, Datuk Nor Azman Mufti (tiga kanan) memberi penerangan tentang projek Hidorelektrik Nenggiri, Gua Musang, Kelantan, sebelum majlis pecah tanah, kelmarin.

Majlis pecah tanah projek disempurnakan Menteri Besar Kelantan, Datuk Ahmad Yakob kelmarin. Ia sebagai satu lagi penjanaan tenaga hijau oleh TNB demi melestarikan kehidupan manusia dan alam sekitar di samping meningkatkan kestabilan bekalan elektrik untuk rakyat dan negara.

Turut hadir, Menteri Tenaga dan Sumber Asli, Datuk Seri Takiyuddin Hassan; Timbalan Menteri Besar, Datuk Mohd. Amar Abdullah; Setiausaha Kerajaan Kelantan, Datuk Nazran Muhammad; Pengerusi TNB, Datuk Seri Hasan Arifin dan Presiden/Ketua Pegawai Eksekutif TNB, Datuk Ir. Baharin Din.

TNB berkata, perjanjian pelaksanaan projek telah dimeterai di antara Kerajaan Negeri Kelantan dan TNB Power Generation Sdn. Bhd. (TNB Genco), anak syarikat milik penuhnya, pada 17 Ogos 2021.

Kerja-kerja di tapak projek, kira-kira 30 kilometer dari bandar Gua Musang, telah bermula pada 1 Mac lalu.

"Syarikat tujuan khas (Special Purpose Vehicle - SPV) yang juga anak syarikat milik penuh TNB Genco, TNBPG Hydro Nenggiri Sdn. Bhd akan menyiapkan projek ini dalam masa 52 bulan," jelas TNB.

Projek ini juga menepati Agenda Matlamat Pembangunan Mampan (SDG) 2030 oleh Pertubuhan Bangsa-Bangsa Bersatu (PBB) yang disetujui sebulat suara oleh 193 negara termasuk Malaysia pada 2015.

TNB meterai MoU inisiatif tenaga hijau

Oleh SITI A'ISYAH SUKAIMI

PUTRAJAYA – Tenaga Nasional Berhad (TNB) menjalin kerjasama strategik dengan S P Setia Berhad (S P Setia) untuk menyediakan solusi tenaga pintar dan tenaga boleh baharu (RE) sebagai sumber utama elektrik masa hadapan kepada bakal pembeli kediaman dan bangunan komersial yang dibangunkan syarikat pemaju hartanah itu.

Melalui kerjasama tersebut, pemasangan sistem solar PV di atas bumbung, pemasangan pengecasan kenderaan elektrik (EV) dan persediaan pemasangan solusi bateri bakal dilaksanakan dalam projek pembangunan kediaman serta komersial S P Setia pada masa depan.

Ketua Pegawai Runcit TNB, Datuk Ir. Megat Jalaluddin Megat Hassan berkata, menerusi kerjasama tersebut, ia akan membolehkan rumah baharu yang dibina dilengkapi dengan panel solar tersebut.

"Maknanya, pada hari pertama pengguna menduduki rumah masing-masing maka mereka juga telah mendapat manfaat bumbung solar.

MUSTAPA (lima dari kiri) pada majlis menandatangani MoU antara TNB dengan S P Setia di Putrajaya semalam.

"TNB akan dapat melibatkan diri pada peringkat yang lebih awal bagi memastikan peluang yang lebih tinggi untuk menjadi pembekal solusi kepada S P Setia.

"Berbekalkan pengalaman dan kepakaran yang ada, TNB yakin mampu memanfaatkan 41 projek aktif S P Setia dan mengesyorkan produk yang relevan dengan teliti mengikut keperluan syarikat tersebut," katanya.

Beliau berkata demikian pada majlis menandatangani MoU antara TNB dengan S P Setia di sini semalam.

Turut hadir Menteri di Jabatan Perdana Menteri (Ekonomi), Datuk Seri Mustapha Mohamed; Pengerusi S P Setia Berhad, Tan Sri Syed Anwar Jamalullail dan Ketua Pegawai Eksekutif S P Setia Berhad, Datuk Choong Kai Wai.

Dalam pada itu, Kai Wai berkata, S P Setia menyasarkan nilai pembangunan kasar (GDV) sebanyak RM4 bilion untuk tahun ini yang mana Kumpulan bercadang menyediakan kemudahan solusi tenaga pintar dalam projek pembangunan akan datang.

"Ini merupakan satu pencapaian dalam kerjasama untuk menyediakan solusi tenaga mampan kepada bakal pemilik hartanah kami di masa hadapan dengan potensi penjimatan ketara dalam penggunaan tenaga sebagai nilai tambah," katanya.

Sementara itu, Mustapa menjelaskan, kerjasama entiti berkenaan menggambarkan komitmen yang kuat antara kedua-dua pihak terhadap tenaga hijau dalam menyokong usaha ke arah *Net Zero* seawal-awalnya menjelang tahun 2050.

"Ia adalah satu inisiatif istimewa yang menemukan dua entiti berbeza dalam bidang industri tenaga dan perumahan.

"Mereka berganding bahu demi matlamat bersama yang membawa kebaikan kepada negara," ujarnya.

Bisnes

Jumaat, 27 Mei 2022
bhbiz@nstp.com.my
Ikuti lebih berita di www.bharian.com.my

TNB tinjau potensi guna turbin angin di Malaysia

Langkah sejajar sasaran karbon sifar menjelang 2050

Oleh Mahanum Abdul Aziz
mahanum_aziz@bh.com.my

Tenaga Nasional Bhd (TNB) meninjau mengembangkan portfolio tenaga boleh diperbaharui (RE) di negara ini, termasuk potensi penggunaan turbin angin pada masa depan sejajar dengan hala tuju kelestariannya mencapai sasaran pelepasan karbon sifar menjelang 2050.

Pengarah Projek (Hala Tuju Kelestarian), Bahagian Strategi dan Usaha Niaga TNB, Dr Noor Miza Muhamad Razali, berkata penjanaan tenaga oleh syarikat utiliti itu merujuk ke depan adalah daripada sumber rendah karbon dengan penggunaan teknologi hijau baharu, termasuk drogen dan tangkapan dan penggunaan karbon (CCU).

Beliau berkata, TNB turut mengatakan kemapanan secara menyeluruh dalam strategi pertumbuhan RE untuk mencapai sasaran 8.5GW RE menjelang 2025 berbanding 3.4GW kapasiti RE dijanakan ketika ini.

Katanya, TNB akan memanfaatkan usaha sama di luar negara dari segi teknologi, kepakaran dan penyelidikan dan pembangunan (R&D) untuk membawa teknologi baharu RE ke dalam negara.

"Di Malaysia, beberapa kajian membabitkan potensi turbin angin telah dijalankan. Cuma, kebolehlaksanaan bergantung kepada berapa saiz yang sebenarnya mempunyai skala ekonomi untuk Malaysia.

"Jadwal, perlu tunggu teknologi (turbin angin) kelajuan rendah menjadi matang yang mengambil masa," katanya pada taklimat pengarang mengenai Hala Tuju Kelestarian TNB 2050 secara maya, semalam.

TNB telah membuat pelaburan dalam teknologi turbin angin menerusi anak syarikat milik penuhnya, Vantage RE Ltd dengan pengambilalihan 49 peratus kepentingan dalam syarikat ladang angin luar pesisir, Blyth Offshore Demonstrator Limited (BODL).

Pengambilalihan daripada EDF Renewables (EDFR), anak syarikat utiliti Perancis, Electricite de France (EDF) itu dimeterai pada 18 Oktober 2021, sekali gus menandakan kemasukan sulung TNB ke pasaran angin luar pesisir antarabangsa.

BODL pada masa ini memiliki aset angin luar pesisir di luar pantai Blyth, Northumberland, England.

Aset itu termasuk lima turbin dengan jumlah kapasiti terpasang sebanyak 41.5MW (Blyth 1) dan hak pembangunan projek angin luar pesisir terapung sehingga 58.4MW (Blyth 2) yang terletak di luar pantai Northumberland.

Lima turbin 8.3MW Blyth 1 dipasang dengan teras berasaskan graviti yang menggunakan beban konkrit untuk memastikan turbin berada di tempatnya dengan selamat tanpa menembusi dasar laut.

TNB mengumumkan Hala Tuju Kelestarian tahun lalu, pelan tindakan dengan aspirasi mencapai pelepasan sifar bersih menjelang 2050.

Hala tuju itu disokong komitmen TNB mengurangkan 35 peratus intensiti pelepasan karbon serta 50 peratus daripada kapasiti penjanaan arang batu menjelang 2035.

Sementara itu, Ketua Pegawai Strategi dan Usaha Niaga TNB, Datuk Fazlur Rahman Zainuddin dalam nota ringkasnya sempena taklimat pengarang itu berkata, syarikat sedang mengambil langkah progresif untuk memenuhi matlamat Hala Tuju Kelestarian 2050.

Beliau berkata, langkah bermakan sebagai pertumbuhan perniagaan dan peluang pewujudan nilai selanjutnya bagi syarikat utiliti itu merujuk ke depan.

Katanya, TNB mengumumkan pendekatan serampang dua mata dalam mencartakan hala tuju berkenaan iaitu menjadikan perniagaan teras semasa mampan dan membina perniagaan mampan baharu untuk pertumbuhan.

"Pertumbuhan dan kemampanan perniagaan seperti yang ditangkikan di bawah Reimagining TNB, terus menjadi tumpuan TNB.

"Bagi kekal setia terhadap aspirasi menjadi peneraju pembekal penyelesaian tenaga mampan di Malaysia dan global dan mencapai aspirasi pelepasan karbon sifar bersih menjelang 2050, pertumbuhan kami akan selaras agenda alam sekitar, sosial dan tadbir urus (ESG)," katanya.

> Di Malaysia, beberapa kajian membabitkan potensi turbin angin telah dijalankan. Cuma, kebolehlaksanaan bergantung kepada berapa saiz yang sebenarnya mempunyai skala ekonomi untuk Malaysia
>
> **Noor Miza Muhamad Razali,**
> *Pengarah Projek (Hala Tuju Kelestarian), Bahagian Strategi dan Usaha Niaga TNB*

TNB tingkat hala tuju kelestarian dengan ladang angin luar pesisir

PETALING JAYA: Anak syarikat milik penuh Tenaga Nasional Berhad (TNB), Vantage RE Ltd. (Vantage RE) meningkatkan portfolio tenaga boleh baharu (RE) TNB dan sasaran sifar bersih dengan pengambilalihan 49 peratus kepentingan dalam syarikat ladang angin luar pesisir, Blyth Offshore Demonstrator Limited (BODL).

Pengambilalihan daripada EDF Renewables (EDFR), anak syarikat kepada sebuah syarikat utiliti Perancis, Électricité de France (EDF) itu dimeterai pada 18 Oktober 2021, sekali gus menandakan kemasukan sulung TNB ke pasaran angin luar pesisir antarabangsa dengan BODL pada masa ini memiliki aset angin luar pesisir di luar pantai Blyth, Northumberland, England.

TNB dalam kenyataan berkata, aset tersebut termasuk lima turbin dengan jumlah kapasiti terpasang sebanyak 41.5MW (Blyth 1) dan hak pembangunan projek angin luar pesisir terapung sehingga 58.4MW (Blyth 2) yang terletak di luar pantai Northumberland.

Lima turbin 8.3MW Blyth 1 dipasang dengan teras berasaskan graviti yang menggunakan beban konkrit untuk memastikan turbin berada di tempatnya dengan selamat tanpa menembusi dasar laut.

"Ladang angin itu telah beroperasi sejak 2017 di bawah skim subsidi Renewable Obligation Certificate (ROC) yang dijangka memberikan pulangan stabil. Blyth 2 pula merupakan projek angin luar pesisir terapung inovatif yang kini dalam peringkat awal pembangunan.

Pengambilalihan ini merupakan satu daripada pemerolehan strategik terancang untuk TNB mempercepatkan perjalanan melaksanakan visi Alam Sekitar, Sosial dan Tadbir Urus (ESG) globalnya," menurut kenyataan.

Tahun lalu, TNB mengumumkan Hala Tuju Kelestariannya, satu pelan tindakan dengan aspirasi mencapai pelepasan sifar bersih menjelang 2050.

Hala Tuju tersebut disokong komitmen TNB mengurangkan 35 peratus intensiti pelepasan karbon serta 50 peratus daripada kapasiti penjanaan arang batu menjelang 2035.

Vantage RE dilancarkan pada 1 Julai 2021 untuk memiliki, mengendalikan dan mengurus portfolio aset RE TNB di UK dan Eropah dan sehingga kini, ia telah mencapai portfolio RE sebanyak 530.4MW termasuk tenaga angin dalam dan luar pesisir serta ladang solar di negara tersebut.

Sehingga Disember 2021, TNB mempunyai jumlah kapasiti RE sebanyak 3,487.2 MW termasuk 2,771.4MW di Malaysia dan 715.8MW di seluruh UK, Turki dan India, dan menyasarkan peningkatan kapasiti RE kepada 8,300MW menjelang 2025.

30 www.hmetro.com.my @hmetronny HarianMetro @hmetronny Jumaat 03.06.22

Kuala Lumpur

Bisnes

TNB melalui Bahagian Tenaga Baharu (NED) berusaha mengukuhkan perniagaannya pada masa hadapan.

KUKUH PERNIAGAAN

TNB perluas jejak tenaga boleh baharu secara global

Tenaga Nasional Bhd (TNB) melalui Bahagian Tenaga Baharu (NED) berusaha mengukuhkan perniagaannya pada masa hadapan dengan mengembangkan jejak tenaga boleh baharu (TBB) secara global melalui penggabungan dan pemerolehan, pembangunan aset dan mewujudkan perkongsian strategik dengan pemain-pemain industri TBB terkemuka.

Anak syarikat milik penuhnya, Vantage RE Ltd (Vantage RE) yang dilancarkan pada 1 Julai 2021, kini mengendalikan dan mengurus portfolio aset TBB TNB di United Kingdom (UK) dan Eropah.

Pada Oktober 2021, Vantage RE meningkatkan portfolio TBB TNB dan matlamat sifar bersih dengan pengambilalihan 49 peratus kepentingan dalam syarikat ladang angin luar pesisir, Blyth Offshore Demonstrator Limited (BODL) daripada EDF Renewables (EDFR), anak syarikat kepada syarikat utiliti Perancis, Electricité de France (EDF).

Ia juga menyelesaikan pemerolehan 100 peratus kepentingan dalam portfolio angin dalam pesisir 97.3MW di United Kingdom (UK) pada April 2022.

Kedua-dua pengambilalihan itu membantu mempercepatkan pelaksanaan agenda alam sekitar, sosial dan tadbir urusnya (ESG).

Sehingga kini, ia mencapai 530MW portfolio TBB termasuk angin luar pesisir, angin dalam pesisir dan ladang solar di UK, pengambilalihan ini menandakan kemasukan sulung TNB ke pasaran angin luar pesisir antarabangsa dengan BODL pada masa ini memiliki aset angin luar pesisir di luar pantai Blyth, Northumberland, England.

> *Projek itu bakal menyukarkan 300 megawatt (MW) TBB kepada grid nasional apabila siap pada 2026 nanti"*
>
> **Baharin Din**

tegi syarikat utiliti nasional itu untuk mengembangkan pasaran tumpuan seperti di UK dan Eropah.

Presiden dan Ketua Pegawai Eksekutif TNB Datuk Baharin Din berkata, ia akan mempercepat peralihan TNB ke arah masa depan tenaga boleh baharu melalui penjanaan karbon rendah, sejajar Hala Tuju Kelestarian TNB dan visi ESG secara keseluruhannya.

"Pada peringkat tempatan, dalam usaha mempercepatkan penyahkarbonan, projek empangan hidroelektrik di Nenggiri, Gua Musang, Kelantan, Datuk Ahmad Yakob kelmarin. Ia sebagai satu lagi penjanaan tenaga hijau oleh TNB demi melestarikan kehidupan manusia dan alam sekitar di samping meningkatkan kestabilan bekalan elektrik untuk rakyat dan negara.

Turut hadir, Menteri Tenaga dan Sumber Asli, Datuk Seri Takiyuddin Hassan; Timbalan Menteri Besar, Datuk Mohd. Amar Abdullah; Setiausaha Kerajaan Kelantan, Datuk Nazran Muhammad; Pengerusi TNB, Datuk Seri Hasan Arifin dan Presiden/Ketua Pegawai Eksekutif TNB, Datuk Ir. Baharin Din.

TNB berkata, perjanjian pelaksanaan projek telah dimeterai di antara Kerajaan Negeri Kelantan dan TNB Power Generation Sdn. Bhd. (TNB Genco), anak syarikat milik penuhnya, pada 17 Ogos 2021.

Kerja-kerja di tapak projek, kira-kira 30 kilometer dari bandar Gua Musang, telah bermula pada 1 Mac lalu.

"Syarikat tujuan khas (Special Purpose Vehicle - SPV) yang juga anak syarikat milik penuh TNB Genco, TNBPG Hydro Nenggiri Sdn. Bhd akan menyiapkan projek ini dalam masa 52 bulan," jelas TNB.

Projek ini juga menepati Agenda Matlamat Pembangunan Mampan (SDG) 2030 oleh Pertubuhan Bangsa-Bangsa Bersatu (PBB) yang disetujui sebulat suara oleh 193 negara termasuk Malaysia pada 2015.

"Projek itu bakal menyukarkan 300 megawatt (MW) TBB kepada grid nasional apabila siap pada 2026 nanti.

"Ia akan meningkatkan kestabilan bekalan di Semenanjung Malaysia, khususnya ke wilayah timur, sekali gus memberikan faedah tambahan kepada Kelantan dari segi tebatan banjir, bekalan air bersih dan air janaan kuasanya. TNB Power Generation Sdn Bhd (TNB Genco) akan bermula tahun ini.

"Projek itu bakal menyukarkan 300 megawatt (MW) TBB kepada grid nasional apabila siap pada 2026 nanti.

"Ia akan meningkatkan kestabilan bekalan di Semenanjung Malaysia, khususnya ke wilayah timur, sekali gus memberikan faedah tambahan kepada Kelantan dari segi tebatan banjir, bekalan air bersih dan air katanya dalam kenyataan.

TNB Genco, yang kini menjana 50 peratus tenaga di Malaysia, sedang berusaha untuk memanjangkan hayat stesen janakuasa hidro sedia ada iaitu stesen janakuasa Sungai Perak, Kenyir dan Cameron Highlands dan akan memanfaatkan bahan api ammonia rendah karbon dalam teknologi pembakaran, sekali gus merangkap karbon di stesen janakuasa arang batunya, dalam usaha mengurangkan intensiti pelepasan gas hijau.

22 www.hmetro.com.my @hmetromy HarianMetro @hmetromy Rabu 29.06.2022 | Harian Metro

Bisnes

TNB perlu menampukan sumber tenaga boleh baharu seperti solar, hidro dan biobahan api dalam tempoh jangka panjang.

TUMPU TENAGA BOLEH BAHARU

TNB disyor pelbagaikan sumber alternatif gas, arang batu

Bernama

Kuala Lumpur

Tenaga Nasional Bhd (TNB) digesa untuk terus mempelbagaikan sumber gas dan arang batu bagi mengekalkan aliran tunainya dalam persekitaran kenaikan mendadak harga bahan api serta kos penjanaan elektrik, kata penganalisis.

Malah, TNB juga perlu menampukan sumber tenaga boleh baharu seperti solar, hidro dan biobahan api dalam tempoh jangka panjang, kata Penganalisis Ekonomi Putra Business School Universiti Putra Malaysia (UPM), Dr Ahmed Razman Abdul Latif.

"Saya yakin TNB sudah memulakan usaha untuk melabur dalam tenaga boleh baharu, terutama yang menyediakan peluang pertumbuhan baharu.

"Ini jelas terbukti dalam pelan strategiknya bagi tempoh 30 tahun dengan sasaran 2025 bagi mewujudkan skala penjanaan tenaga tenaga boleh baharu dan meningkatkan kecekapan loji terma yang seterusnya mencapai pelepasan karbon sifar bersih serta bebas arang batu menjelang 2025," katanya.

Ahmed Razman berkata TNB juga pada masa ini sudah mengambil alih beberapa syarikat tenaga boleh baharu dan mula memberi tumpuan ke atas hidrogen hijau, selain pengeluaran tenaga berteraskan solar dan hidro.

Menurutnya, walaupun ini satu strategi baik, ia sebaliknya mengambil tempoh lama untuk memberi impak besar kerana TNB memerlukan masa bagi menggantikan loji penjanaan berasaskan arang batu dan gas yang memakan modal perbelanjaan yang tinggi.

Sementara itu, berkongsi pandangan sama, Profesor Penyelidikan dan Inovasi Malaysia University of Science and Technology (MUST) Profesor Geoffrey Williams berkata, TNB mempunyai strategi tenaga boleh baharu yang jelas tetapi perkembangannya agak perlahan akibat aspek ketersediaan teknologi serta kos berkaitan.

"Ada kemungkinan pergantungan terhadap arang batu dan gas ini akan terus wujud sekitar 70 peratus walaupun bagi tempoh 20 tahun akan datang.

"TNB sebaliknya boleh dan sedang melabur dalam peluang bekalan bagi baki 30 peratus, tetapi jika ini meningkat sekali pun, ia masih minoriti dalam perniagaan itu," katanya.

Menurutnya, laporan tahunan TNB pada 2020 menunjukkan lebih daripada 95 peratus penjanaan tenaga TNB adalah bersumberkan arang batu dan gas.

"Ini bukan sahaja buruk untuk alam sekitar, tetapi turut menyebabkan kos yang tinggi berikutan lonjakan harga minyak dan gas yang ketara.

"Masalahnya, sumber tenaga boleh baharu ini pula tidak dapat mengatasinya dengan pantas kerana penjanaan tenaga itu sendiri merupakan satu pelaburan jangka panjang," katanya.

Williams berkata, selain daripada pelaburan dalam alternatif bekalan gas dan arang batu, TNB juga perlu memberi tumpuan terhadap permintaan penggunaan meter pintar dan analisis data untuk memahami permintaan secara lebih tepat.

TNB kaji sumber tenaga baharu boleh diperbaharui

Kuala Lumpur: Peralihan kepada tenaga bersih tidak dapat dielakkan terutama apabila dunia bergerak ke arah pembalikan kesan perubahan iklim di samping memastikan keselamatan tenaga untuk melindung nilai daripada ketidaktentuan luaran seperti impak konflik Rusia-Ukraine terhadap sektor tenaga.

Ketua Pegawai Operasi TNB Generation Sdn Bhd (TNB Genco) Datuk Ir Roslan Abd Rahman berkata, Tenaga Nasional Bhd (TNB) merancang untuk mengurangkan pergantungan kepada arang batu sebanyak 50 peratus menjelang 2035 dan mengkaji secara serius sumber tenaga boleh diperbaharui seperti hidrogen dan ammonia.

"Kami tidak mahu bergantung kepada satu sumber untuk menjana elektrik. Dari segi keselamatan, tenaga boleh diperbaharui seperti hidrogen kini lebih selamat berbanding arang batu yang perlu diimport dari negara pengeluar seperti Indonesia.

"Kita akan mempunyai masalah jika Indonesia berhasrat menghentikan eksport arangnya," katanya di luar acara lawatan media ke stesen-stesen Janakuasa Cameron Highlands (SSJCH) TNB.

Turut hadir ialah Pengurus Besar Hal Ehwal Stakeholder TNB Pahang Datuk Baderul Sham Saad dan Pengurus Besar Stesen-stesen Janakuasa Cameron Highlands Sa'aidan Abu Hassan.

Selain itu, Roslan menambah bahawa empangan kuasa hidro juga adalah sumber tenaga boleh diperbaharui yang penting dan pada masa ini, hidroelektrik menyumbang kira-kira 10 peratus daripada grid tenaga negara.


ROSLAN (kiri) ketika melawat SSJCH TNB.

Stesen jana kuasa TNB di Kenyir mula tugas 3 bulan lebih awal


BAHARIN (duduk, tengah) diberi penerangan di Pusat Kawalan Muatan Kuasa Nasional (NLDC) di Kompleks Ibu Pejabat TNB, Kuala Lumpur.

PETALING JAYA – Stesen Jana Kuasa Sultan Mahmud (SJSM) di Kenyir, milik Tenaga Nasional Berhad (TNB) di Tasik Kenyir, Hulu Terengganu kembali memperkasa Grid Nasional apabila keempat-empat unit janakuasanya berjaya dimulatugaskan tiga bulan lebih awal daripada perancangan asal bagi menyalurkan bekalan elektrik.

Presiden dan Ketua Pegawai Eksekutif TNB, Datuk Ir. Baharin Din berkata, stesen yang terpaksa dihenti tugas pada 27 Februari lalu akibat kejadian tanah runtuh berikutan hujan lebat luar biasa, beroperasi sepenuhnya pada 26 Jun 2022.

"Harapan kita agar keempat-empat unit penjanaan SJSM dengan kapasiti keseluruhan 400 MW beroperasi dalam keadaan baik dan terus memberi manfaat kepada semua rakyat Malaysia dari segi tenaga hijau.

"SJSM apabila beroperasi kapasiti penuh mampu menyumbang secara purata 1,600 gigawatt-jam setahun, sekali gus menghindari pelepasan 537,600 tan karbon dioksida (CO_2) jika menggunakan sumber bahan api fosil (gas), bersamaan pelepasan karbon daripada 116,869 kenderaan di jalan raya setahun," katanya dalam kenyataan semalam.

Ujarnya, penjanaan tenaga sebanyak itu secara hidro dapat mengelak kos bahan api beranggaran RM463 juta setahun jika menggunakan arang batu sebagai bahan bakar, berikutan kenaikan luar biasa harganya kesan krisis bahan api dunia susulan pandemik dan krisis Russia-Ukraine.

"Kejayaan ini adalah hasil usaha bersepadu warga kerja pelbagai Bahagian TNB serta Angkatan Tentera Malaysia, Jabatan Pertahanan Awam, Jabatan Bomba dan Penyelamat, Jabatan Kerja Raya, Pejabat Daerah dan Pejabat Tanah Kuala Berang, Jabatan Perhutanan, Jabatan Mineral dan Geosains dan Agensi Pengurusan Bencana Negara," katanya.

GOAL 7 – MALAYSIA'S SDG INDICATORS, DATA AVAILABILITY & DATA SOURCES

GOAL 7 – MALAYSIA'S SDG INDICATORS, DATA AVAILABILITY & DATA SOURCES

INDICATOR	DATA AVAILABILITY	SOURCE
7.1.1 Proportion of population with access to electricity	✓	DOSM
7.1.2 Proportion of population with primary reliance on clean fuels and technology	✓	DOSM
7.2.1 Renewable energy share in the total final energy consumption	✓	Energy Commission
7.3.1 Energy intensity measured in terms of primary energy and GDP	✓	Energy Commission
7.a.1 International financial flows to developing countries in support of clean energy research and development and renewable energy production, including in hybrid systems	✗	-
7.b.1 Installed renewable energy-generating capacity in developing countries (in watts per capita)	✓	Energy Commission

✓ Available ✗ Not relevant

MALAYSIA'S INDICATORS FOR GOAL 7

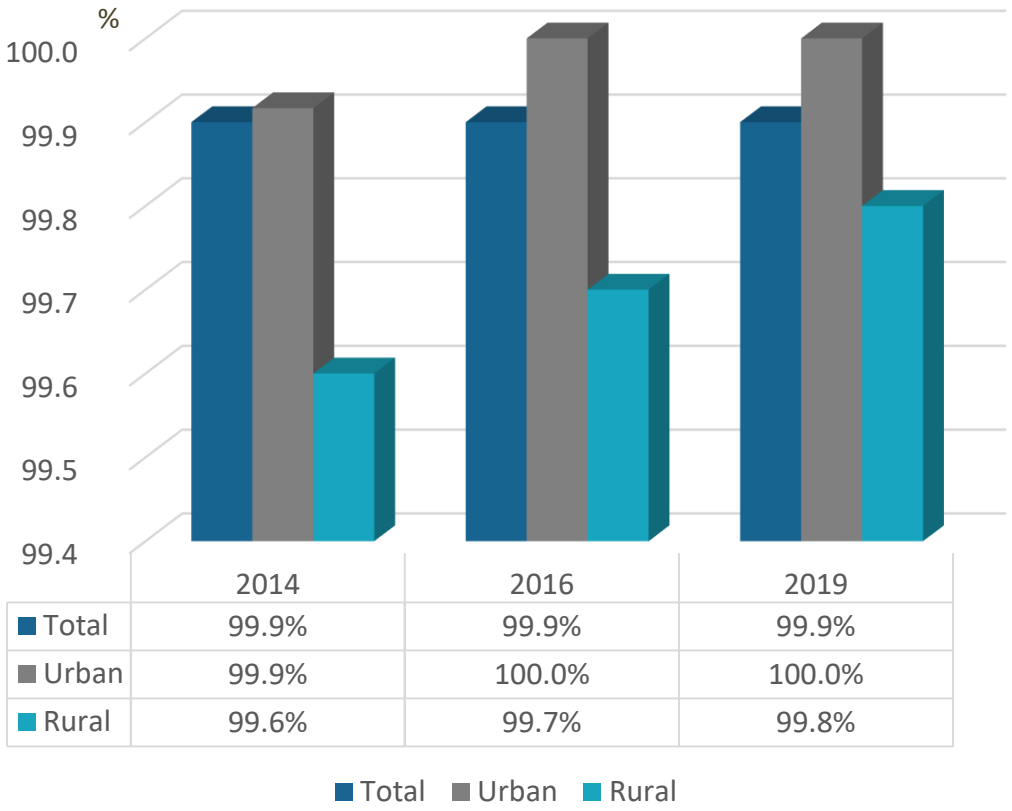
StatsMalaysia

www.DOSM.gov.my

MALAYSIA'S INDICATORS FOR GOAL 7

Target 7.1: Universal access to modern energy

Indicator 7.1.1: Proportion of Population with Access to Electricity



	2014	2016	2019
Total	99.9%	99.9%	99.9%
Urban	99.9%	100.0%	100.0%
Rural	99.6%	99.7%	99.8%

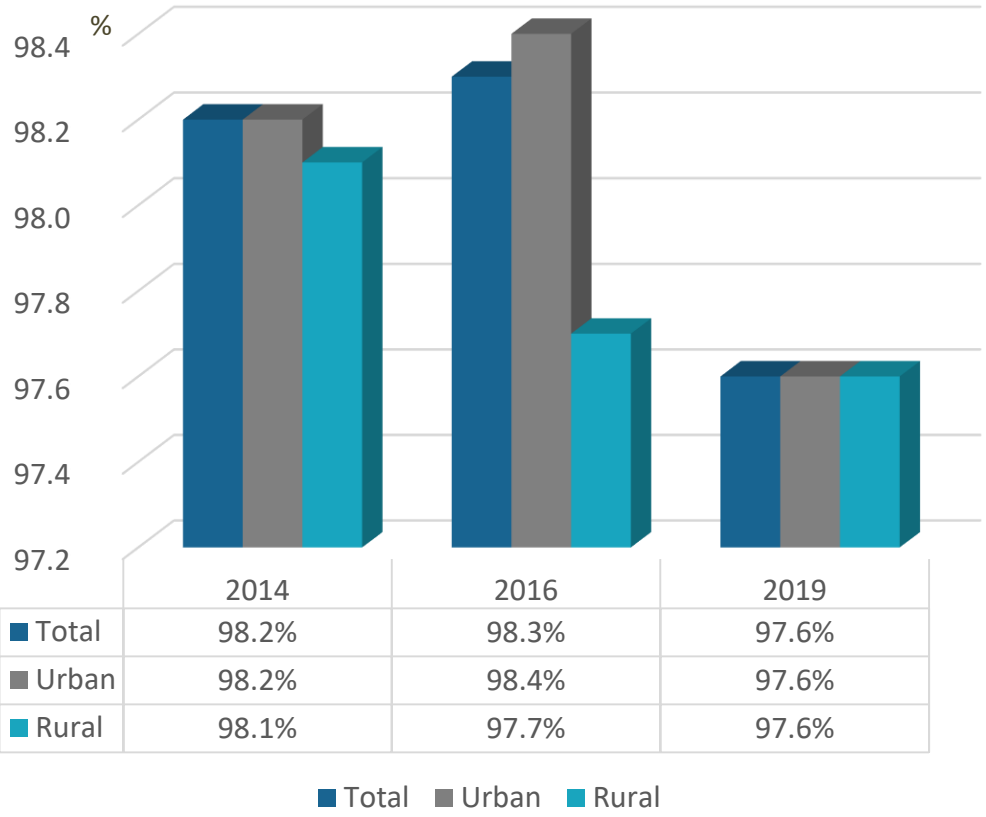
99.9%
of the population in Malaysia has access to electricity

Methodology UN	❑ Is to the percentage of population with access to electricity. SDG7 ensures access to affordable, reliable, sustainable and modern energy for all. ❑ This indicator refers to the proportion of population with access to electricity. This is expressed in percentage figures and is disaggregated by total, urban and rural access rates per country, as well as by UN regional and global classifications.
Methodology Malaysia	❑ The percentage of households accessing electricity is households that have access to electricity supplied by electricity companies (such as Tenaga Nasional Berhad, Sabah Electricity Sdn. Bhd. and Sarawak Energy Sdn Bhd.). This also includes electricity supplied through power generators either supplied by electricity companies or owned by households. In addition, it also includes electricity supply obtained using solar power.
Data sources	Household Income and Basic Amenities Survey (HIS/BA)
Data release calendar	Twice in 5 years
Sources	Department of Statistics Malaysia

MALAYSIA'S INDICATORS FOR GOAL 7 (Cont'd)

Target 7.1: Universal access to modern energy

Indicator 7.1.2: Proportion of population with primary reliance on clean fuels and technology



	2014	2016	2019
Total	98.2%	98.3%	97.6%
Urban	98.2%	98.4%	97.6%
Rural	98.1%	97.7%	97.6%

97.6%
of the population in Malaysia using stove (LPG) for cooking

Methodology UN	Proportion of population with primary reliance on clean fuels and technology is calculated as the number of people using clean fuels and technologies for cooking, heating and lighting divided by total population reporting that any cooking, heating or lighting, expressed as percentage. "Clean" is defined by the emission rate targets and specific fuel recommendations (i.e. against unprocessed coal and kerosene) included in the normative guidance WHO guidelines for indoor air quality: household fuel combustion.
Methodology Malaysia	Proportion of population with primary reliance on clean fuels and technology is the percentage of population using stove (LPG-proxy) for cooking.
Data sources	Household Income and Basic Amenities Survey (HIS/BA)
Data release calendar	Twice in 5 years
Sources	Department of Statistics Malaysia

MALAYSIA'S INDICATORS FOR GOAL 7 (Cont'd)

Target 7.2: Increase global percentage of renewable energy

Indicator 7.2.1: Renewable energy share in the total final energy consumption

Final energy consumption	Primary energy supplied	Generation mix	Bioenergy
1.4	3.9	17.6	4.0
2019: 1.0	2019: 3.4	2019: 16.1	2019: 3.8

The share of renewable energy in total final energy consumption **reached 1.4% in 2020, 40% higher than in 2019**.

The highest contribution was from the generation mix, where the share of renewables now exceeds 17.6%. While, bioenergy and primary energy consumption penetrated 4.0% and 3.9%

Methodology UN	The renewable energy share in total final consumption is the percentage of final consumption of energy that is derived from renewable resources.
Methodology Malaysia	The renewable energy share in total final consumption is the percentage of final consumption of energy that is derived from renewable resources
Data sources	National Energy Balance (NEB) report
Data release calendar	Annually
Sources	Energy Commission

MALAYSIA'S INDICATORS FOR GOAL 7 (Cont'd)

Target 7.3: Double the improvement in energy efficiency

Indicator 7.3.1: Energy intensity measured in terms of primary energy and GDP

Primary energy intensity increased from 69.20 toe per 1 million GDP in 2019 to **70.02 TOE** in 2020, with **an average annual improvement rate of 1.2%.**

Note: toe refers to tonnes of oil equivalent

Methodology UN	Energy intensity is defined as the energy supplied to the economy per unit value of economic output.
Methodology Malaysia	Energy intensity is defined as the amount of energy used to produce one unit of economic output.
Data sources	National Energy Balance (NEB) report
Data release calendar	Annually
Sources	Energy Commission

MALAYSIA'S INDICATORS FOR GOAL 7 (Cont'd)

Target 7.B: Expand and upgrade energy services for developing countries

Indicator 7.b.1: Installed renewable energy-generating capacity in developing countries (in watts per capita)

251.73
watts per capita

2019: 238.94

Installed renewable energy-generating capacity in Malaysia increased by **5.4% in 2020 as** compared to the previous year.

Methodology UN	The flows are covered through two complementary sources. ❑ OECD: The flows covered by the OECD are defined as all official loans, grants and equity investments received by countries on the DAC List of ODA Recipients from foreign governments and multilateral agencies, for the purpose of clean energy research and development and renewable energy production, including in hybrid systems extracted from the OECD/DAC Creditor Reporting System (CRS). ❑ IRENA: The flows covered by IRENA are defined as all additional loans, grants and equity investments received by developing countries (defined as countries in developing regions, as listed in the UN M49 composition of regions) from all foreign governments, multilateral agencies and additional development finance institutions (including export credits, where available) for the purpose of clean energy research and development and renewable energy production, including in hybrid systems.
Methodology Malaysia	The installed capacity of power plants that generate electricity from renewable energy sources divided by the total population of a country.
Data sources	National Energy Balance (NEB) report
Data release calendar	Annually
Sources	Energy Commission

MALAYSIA SDG DASHBOARD

"STATISTICS BLOOM IN HARMONY"

Doesn't matter far or near
Strength in numbers
we don't live in fear

Birds of feather flock together
Statistics our form of adour
We, will always live it up

So let us live in solidarity
And in the world arena we'll succeed
It is statistics that will come to be
The reason we will bloom in harmony

Everybody undivided
Data's where our hearts reside in
There will always be a bind

Just like fire that ignites
That's how brightly lit our dreams are
We'll reach higher than the stars

Sending love to one another
Leaving no one in a slumber
We will stand with unity

Mustering our courage while
Embracing our disparities
We'll achieve our victory

One dream with unity
One love with harmony

" STATISTICS BLOOM IN HARMONY" VIDEO

https://bit.ly/StatisticsBloomInHarmony

THANK YOU

BANCI EKONOMI 2023
DATA PEMANGKIN EKONOMI NEGARA

20 OCT

2016 - 2030

PSSN

StatsMalaysia

www.DOSM.gov.my