

ENERGY TRANSITION



In 2023, nations around the world continued to move with greater urgency towards solving one of the most pressing challenges of our time - climate change.

Sovereign wealth funds are increasingly acknowledging their role in speeding up the energy transition. Recognising their significant resources and influence, they are now making climate risk management and energy transition initiatives a core part of their strategies to ensure sustainable investments and long-term wealth preservation.

In Malaysia's context, the energy transition pathway has been outlined by the government with the launch of the National Energy Transition Roadmap (NETR) in August 2023. The NETR provides the blueprint and steps to increase renewable energy capacity to 70% of Malaysia's total generation capacity and to achieve net zero emissions by 2050. The NETR will also prioritise improvements in energy efficiency and pursuit of green technologies and infrastructure that will accelerate decarbonisation in tandem with the gradual phasing out of coal-fired plants.

It is against this landscape that Khazanah recognises climate change presents risks that we need to mitigate and long-term growth opportunities that we could tap into. As a sovereign wealth fund mandated to preserving and growing the nation's wealth, it is in our best interest to actively champion the energy transition and sustainability.

We fully support the government's sustainability and energy transition agenda, which will be realised through the effective implementation of the NETR. Consequently, we are coordinating with our portfolio companies – UEM Group, Tenaga Nasional Berhad and Cenergi SEA Berhad - to be at the forefront of driving initiatives that will contribute to Malaysia's transition towards a net zero future.

ENERGY TRANSITION

UEM Group

Under the UEM Group, we launched a new Energy Transition (ET) investment platform, UEM Lestra, to invest in new ET projects via merger and acquisition or through greenfield projects. It is envisioned that UEM Lestra will help to develop leaders in green and other energy transition-related sectors.

Launched in July 2023, UEM Lestra's short-term strategy will focus on Immediate Foundation Technologies. This will include sectors such as renewable energy and storage infrastructure, supported by its wholly owned subsidiary, Cenergi, as well as integrated energy solutions, green or electric mobility and waste management and recycling.

UEM Lestra's core business of driving the energy transition aligns with UEM Group's mission to drive and invest in the decarbonisation of industrial parks and cities across Malaysia. At the same time, other UEM Group subsidiaries, such as UEM Edgenta and UEM Sunrise, will actively pursue their own ET initiatives.

Since its launch, UEM Lestra, along with UEM Group companies, has announced the development of projects in two key areas:

01

Renewable Energy and Storage

- Launched the development of a 1GW solar farm led by UEM Lestra and a renewable energy industrial park in Johor, led by UEM Sunrise, as part of the Integrated RE Zone flagship catalyst project under the NETR. Key anchor tenants for the industrial park include local engineering company ITRAMAS and the China Machinery Engineering Corporation Wuxi Co. Ltd. Additionally, UEM Lestra has collaborated with local partners to develop a 500MW solar plant in the Kulim Hi-Tech Park in Kedah and a 170MW solar plant in the Gebeng Industrial Park in Pahang.
- UEM Lestra's subsidiary, Cenergi, together with the Khazanah majority-owned company, Iskandar Investment Berhad (IIB), aims to transform the urban township of Medini into a net-zero carbon central business district.

02

Green Buildings and Energy Efficiency

- UEM Edgenta - Pledged RM100 million for its 'Sustainable Zero-Capex Programme,' which aims to convert existing government assets into smart and green buildings, focusing on energy efficiency and green buildings.



- ▶ On 27 July 2023, UEM Group signed Memorandums of Understanding (MoUs) with local and foreign investors to develop a 1GW Hybrid Solar Photovoltaic Power Plant integrated with a Renewable Energy (RE) Industrial Park in Malaysia. This project aligns with strategic and high-value national flagship energy transition projects outlined in Malaysia's National Energy Transition Roadmap (NETR), with Khazanah designated as the champion for Renewable Energy Zones (REZ). The project will be developed by UEM Group in collaboration with local investor ITRAMAS Corporation Sdn. Bhd. and has attracted renowned foreign strategic investors such as Blueleaf Energy, China Machinery Engineering Wuxi Co. Ltd. and HEXA Renewables.

ENERGY TRANSITION

Tenaga Nasional Berhad (TNB)

As the only electric utility company in Peninsular Malaysia, TNB has a crucial role to play in Malaysia's energy transition journey. As such, TNB has in recent years rapidly pivoted towards accelerating the energy transition which will be executed through its Energy Transition (ET) Plan. TNB's ET Plan comprises three strategic pillars which aims to address challenges in dealing with the energy trilemma of energy security, sustainability and affordability.



► TNB staff at the TNB Electron Charging Points (DC) at R&R Tapah (Northbound).

Pillar 1:

Delivering Clean Generation

This pillar aims to expand low-carbon generation assets and reduce coal-fired generation capacity. Although committed to halting new coal plant construction, TNB acknowledges coal's critical role in the short to medium term in managing energy trilemma. Therefore, TNB is improving the efficiency of existing thermal power plants and investing in R&D to scale up innovative solutions, including carbon capture technologies.

Pillar 2:

Developing the Energy Transition Network

In 2023, TNB's Grid and Distribution Network Divisions invested over RM2.9 billion and RM5 billion to secure, maintain and modernise the national grid for the energy transition. Key initiatives include renewable energy integration, expanding advanced metering infrastructure (AMI) and implementing real-time network monitoring and control. With Malaysia's increasing solar integration, further investments are needed for a smart and flexible grid system. A flagship NETR project is the implementation of a Battery Energy Storage System (BESS), with a pilot 400MWh BESS installation expected to be operational by 2025. Additionally, TNB enhanced efforts to support the ASEAN Power Grid aspiration through strategic partnerships with ASEAN Member States.

Pillar 3:

Dynamic Energy Solutions

Under this pillar, TNB aims to expand rooftop solar panel usage nationwide and invest significantly in Malaysia's transport sector electrification. By 2023, TNB expanded its network to 32 electric vehicle charging points across Peninsular Malaysia. It has also partnered with Chargeplus (Charge+) to develop a cross-border network of 30,000 charge points across Southeast Asia by 2030. TNB achieved a cumulative 340MWp capacity in rooftop solar PV by the end of 2023 and introduced innovations like the SuriaShield residential solar PV insurance. TNB also engages customers through the Malaysia Energy Literacy Programme (MELP), now a national initiative overseen by the Ministry of Energy Transition and Water Transformation (PETRA).

ENERGY TRANSITION



- Cenergi FJP 5.5 MW Biogas Power Plant: Located in Jerantut, Pahang. This plant achieved its commercial operation date (COD) in April 2024. With a capacity of 5.5 MW, it is the largest palm oil mill effluent (POME) grid-connected biogas power plant in Malaysia, as recognised by the Malaysia Book of Records on 18 May 2024. This biogas power plant can power up to 14,000 houses annually and can avoid approximately 300,000 tons of carbon dioxide emissions.

Cenergi SEA Berhad (Cenergi)

Cenergi is dedicated to producing and expanding the green energy sector through innovative and sustainable solutions. Its mission is to significantly reduce carbon emissions and promote environmental sustainability.

By 2024, Cenergi plans to achieve 200 MW of operational assets, preventing the emission of 500,000 tonnes of CO₂ equivalent annually across Southeast Asia.

The company focuses on the biogas, biomass, solar, and small hydro energy sectors to reduce reliance on fossil fuels and enhance renewable energy capacity.

A flagship project includes partnering with FELCRA Berhad to develop Malaysia's largest grid-connected biogas-to-energy project, boasting 5.5MW capacity, in Jerantut, Pahang. This initiative showcases Cenergi's innovative use of biogas technology for sustainable energy production and community development.

Cenergi also collaborates with Iskandar Investment Berhad to pioneer renewable energy initiatives, starting with creating Johor's first net-zero carbon business district in Medini. This collaboration includes purchasing Renewable Energy Certificates (RECs) and supporting IIB in developing its own RECs.

Additionally, Cenergi invests RM140 million with JLand Group in deploying rooftop solar and energy efficiency solutions across industrial parks. This joint venture promotes renewable energy adoption and enhances energy efficiency among commercial and industrial consumers, advancing Malaysia's sustainable development goals.