



18 SEP, 2023

A CLEARER PATHWAY TO THE ENERGY LANDSCAPE

The Edge, Malaysia





A CLEARER PATHWAY TO THE NEW ENERGY LANDSCAPE

First, as the world moves faster towards achieving net zero carbon emissions, it is crucial to ensure an inclusive transition that leaves no one behind in the universal right to have access to energy. Second, with the intricacies surrounding this unprecedented transformation of energy systems and their far-reaching impact, it is astonishingly clear that a concerted effort is imperative to successfully address the looming challenges.

Third, a shake-up is upon everyone in the way they treat energy. At the same time, technologies and collaborations could smoothen the journey and potentially turn headwinds into opportunities as practices involving energy continue to morph.

These are some of the key takeaways from the two-day Energy Transition Conference 2023 powered by Tenaga Nasional Bhd (TNB). The pathway is clear and there are continued efforts made by all energy stakeholders to strike the right balance between reducing emissions and maintaining energy security, reliability and affordability.

In encapsulating the discussions on how to drive an accelerated and responsible transition, TNB president and CEO Datuk Indera Ir Baharin Din aptly pointed to how ambitious – and urgent – is the task at hand.

“As [Pulitzer Prize winner and energy expert] Daniel Yergin highlighted, previous energy transitions took place over the course of a century or more. And even then, they did not completely displace existing technologies as we aim to do today,” he said in his closing remarks.

“Therefore, this poses new challenges for us, as decarbonising electricity too quickly introduces security and economic challenges, which become more complex if addressed in isolation. It is for this reason that no one can reach our net zero targets alone, and that there is an urgent need to work together to optimise our resources while balancing the trilemma.”

TURNING THREATS INTO OPPORTUNITIES

To different stakeholders, the energy transition – essentially a global shift from fossil-fuel-based systems to renewable energy (RE) – poses various challenges and urgency. International Renewable Energy Agency (IRENA) director-general Francesco La Camera emphasised at the conference just how crucial it is to empower the circular economy in order to ensure adequate supply of critical minerals that could otherwise put the brakes on the transition.

This is at a time when inequality in renewable energy investments continues to grow even as the world posted a record year of capacity additions of 295GW in 2022, with more than half of the world population receiving only 15% of such investments.

Different pathways to support industry readiness were presented throughout the conference, including case studies and recommendations on carbon markets, as well as the dynamics between brown asset owners and financial institutions for transition financing. Malaysia is well placed – both geographically and in terms of industry – to lead the way in Asean on how to utilise these emerging key levers.

Another key challenge is the price of going green, as costs are still high to displace the scale of current conventional power systems with RE due to technological barriers (such as hydrogen production), intermittency costs (for RE, like solar which requires battery storage) and grid upgrade costs (due to higher distribution of generation sources), to name a few.

Nevertheless, there are already success stories, such as South Australia, which has 77% of its power generation capacity in renewables and which relies solely on RE generation for 180 days a year for its population of 1.84 million, thanks to battery storage systems.

In Malaysia, calls for collaboration echo across the industry, including to explore the development of floating solar-hydro hybrid systems to address intermittency challenges. In the UK, technologies are in place to facilitate smart tariffs, which prompt consumers to get the best electricity prices in a day by adjusting their activities based on energy availability.

With ongoing smart meter installation and a growing base of prosumers, thanks to the adoption of EVs and rooftop solar, Malaysia could adopt similar practices, which contribute to more responsible electricity consumption and a more stable grid as RE becomes more dominant.

A BIGGER, STRONGER AND SMARTER ASEAN POWER GRID

In the bigger picture, grid readiness remains the top priority for TNB to converge all ongoing efforts. There is “no transition without transmission”, as several panellists at the conference opined.

It is about making the grid stronger, bigger and smarter: ensuring two-way transmission of energy with more prosumers coming into the fray, expanding the network due to de-concentration of power generation and having data-enabled management to allow real-time adjustments by producers and consumers.

The same concept applies to the long-awaited Asean Power Grid. Since countries are being pushed to switch to RE, a reliable international grid interconnectivity allows each country to focus on different components that play to their advantage.

TNB, which has a crucial role to play in supporting Malaysia's ambition to be the Asean Energy Hub, aims to invest RM90 billion over the next six years in the grid, 40% of which will be channelled towards energy-transition-related capital expenditure.

To open the gateway to more than US\$6.3 trillion of new investments in the sector by 2050, “the timing is right to make the Asean Power Grid a reality, as it is now a matter of our survival”, TNB's Baharin said.

A net zero strategy is becoming a must-have to address climate change and ensure continued trade and investments. At the same time, no country or organisation can go at it alone. Every step counts to ensure the transition can be done successfully, while adding to Malaysia's economic growth in a meaningful manner.



Prime Minister Datuk Seri Anwar Ibrahim, Minister of Economy Rafizi Ramli and Minister of Natural Resources, Environment and Climate Change Nik Nazmi Nik Ahmad at the launch of Phase Two of the National Energy Transition Roadmap. A net zero strategy is becoming a must-have and every step counts to ensure the transition can be done successfully, while adding to Malaysia's economic growth in a meaningful manner.