

Deep Dive Workshop 3: Grid Modernisation

The 6th International Sustainable Energy Summit (ISES) 2024 featured a session on “Grid Modernization: Developing the Grid of the Future” on August 20, 2024, moderated by Ir Alex Looi. The session discussed strategies for modernizing the electrical grid to meet future energy demands and sustainability goals, with a focus on integrating technologies like AI, IoT and big data.

Malaysia aims to achieve 40% renewable energy by 2035 and 70% by 2050. To meet these targets, the grid must be modernized with smarter technologies. The growing number of data centers requires fast, green electricity connections, prompting TNB to introduce a green lane pathway. Ensuring grid stability and flexibility is essential, with energy storage playing a crucial role. Regulatory frameworks must be updated to support new technologies and customer participation. Public-private partnerships and regional cooperation within ASEAN are vital for grid development. Cybersecurity is critical and requires comprehensive measures.

The workshop highlighted the benefits of battery storage systems for enhancing grid stability and economic feasibility. The impact of distributed energy resources on transmission stability was discussed, with lessons from the 2019 UK blackout. TNB's commitment to expedite data center connections through a green lane process aims to boost data capacity by 2030.

Key recommendations for achieving grid modernization include implementing smarter grid technologies, updating regulatory frameworks, promoting battery storage systems, fostering public-private partnerships, and enhancing regional cooperation within ASEAN. Strengthening cybersecurity through technology investment and regulatory compliance is also crucial. By addressing these areas, Malaysia can modernize its grid to meet future energy demands, enhance sustainability, and ensure reliable electricity for all stakeholders.