
Session 5

Navigating Sustainably in Iskandar Puteri Data Centres

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The session explored the strategic importance and challenges of data centres, particularly in Iskandar Puteri, exploring several key aspects, including the strategic advantages and growing demand, challenges in energy requirements, sustainability concerns, and socio-economic impact.

1. Growing Demand & Strategic Location

Data centres are critical due to the rise of AI, cloud computing, and large-scale data processing. Iskandar Puteri, situated near Singapore, is a prime location for data centre development due to its proximity to an established global data hub. This strategic advantage reduces setup times and operational costs for businesses, allowing them to tap into Singapore's extensive networks, talent pool, and infrastructure while benefiting from Malaysia's relatively lower costs. Johor's geographic position makes it an attractive alternative to Singapore.

2. Energy Demands & Infrastructure

A significant focus of the discussion was the energy demands of data centres, which are power-hungry facilities. One committed centre in Johor requires up to 400 megawatts, while projected demand may reach 12 gigawatts by 2035, nearly half of Malaysia's current national power consumption. Tenaga Nasional Berhad (TNB) is upgrading its grid through a three-phase plan and exploring innovations like superconductors and multi-circuit towers to meet demand while minimising new construction and addressing public concerns.

3. Sustainability Challenges

Sustainability is crucial as data centres are major energy consumers. Integrating renewable energy (RE) such as solar is essential but costly. Technological innovations, like liquid cooling for high-density servers, can enhance energy efficiency. Collaborative efforts between the public and private sectors are vital to promote sustainability, aligned with Iskandar Malaysia's goals of reducing carbon intensity by 70% through energy efficiency, renewable energy, waste management, and green building initiatives.

4. Public Concerns & Socio-Economic Impact

Electromagnetic fields (EMF) from transmission lines are a key public concern, but modern designs minimise exposure, making it lower than everyday devices like mobile phones. Data centres also offer indirect economic benefits, such as infrastructure development and increased land values, despite not creating significant direct employment. They can contribute to local communities by promoting STEM education and future green job opportunities.

5. Iskandar Puteri as a Data Centre Hub

The region is well-positioned to become a major data centre hub, with support from the government, robust energy infrastructure, and planned water pipelines crucial for cooling operations. However, sustainable growth must be prioritised, particularly concerning water and energy resources. Solutions like desalination and greywater treatment are being explored to ensure the region's long-term sustainability.

Conclusion

Iskandar Puteri has the potential to be a critical player in the global data centre market, but growth must balance technological advancement with environmental sustainability. Collaboration among government, private sectors, and local communities is key to achieving this balance.