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Energy demand in Sabah: Impact of power shortages

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IN recent years, Sabah has seen a significant increase in energy demand, driven by rapid economic growth, population growth, and industrial development. As of 2024, the majority of electricity generated in Sabah comes from Independent Power Producers (IPPs), which supply 73pc of the total power, while Sabah Electricity (SE) accounts for the remaining 27pc. The state's total installed electricity capacity is 1,487 MW, with a reserved margin of only 5pc, serving a population of about 3.7 million people. This rise in energy usage is closely linked to the state's ongoing industrialisation efforts.

The rapid economic growth in Sabah is a key factor behind the increased energy demand. The state is moving toward a more industrialised economy, which has led to substantial growth in sectors like agriculture, manufacturing, and tourism.

For instance, the establishment of industrial parks and commercial centres has created job opportunities and increased energy consumption. Industries require significant amounts of energy for various operations, such as running machinery, lighting, heating, and cooling, which contributes to the overall demand for electricity.

Moreover, Sabah's steadily growing population is fuelling the need for more energy. There has been a noticeable rise in residential energy consumption as more homes are built and more people move in.

According to the Rahim & Co Kota Kinabalu Housing Property Monitor, the state recorded 1,436 residential transactions worth RM589.921 million in the first quarter of 2024, which is a year-on-year increase of 17.03pc in volume and 22.24pc in value. Most of these transactions were concentrated in Kota Kinabalu, Penampang, and Putatan. As urbanisation continues, the demand for essential resources such as electricity, water, and transport fuels is also increasing, putting additional pressure on the energy supply system.

Technological advancements have also played a role in increasing energy demand.

The growing usage of electronic devices like smartphones, laptops, and other gadgets has led to higher energy consumption. Although many modern appliances are energy-efficient, the sheer number of devices being used in homes and workplaces has resulted in a rise in overall electricity demand.

Despite this increase in energy demand, Sabah's energy supply has struggled to keep up, leading to power shortages. The State heavily depends on fossil fuels, particularly natural gas, which makes up over 80pc of its electricity generation.

This reliance raises concerns about energy security, especially as domestic resources become depleted. There is a pressing need to diversify energy sources to ensure a more stable supply.

As early as 2025, certain districts in Sabah, including Lahad Datu, Kunak, Semporna, and Telupid, have been experiencing power outages.

While some areas that were previously affected have had their power restored, these outages highlight ongoing issues with the stability of Sabah's electricity supply. Financial challenges and the risk of a total blackout without federal support have added to these concerns.



The frequent power outages and load-shedding measures have disrupted daily life for many communities, causing frustration and inconvenience. People are forced to spend time and money on alternative energy sources, such as generators, kerosene, or candles, putting extra strain on their finances. This situation has led to increased stress and anxiety for many families, both in urban and rural settings.

To overcome these issues, Sabah must adopt a comprehensive energy strategy. Investment in upgrading power plants, transmission lines, and distribution networks is essential.

New power generation facilities, particularly renewable energy plants, should be developed to bolster capacity and reliability. The introduction of smart grid technologies can also optimise electricity distribution and reduce energy losses.

Transitioning to renewables such as solar, wind, and hydroelectric power is crucial for long-term energy security. Sabah's tropical climate is ideal for solar energy, while coastal and high-altitude regions hold promise for wind power. Hydroelectric projects can also harness the state's river systems.

Government incentives and policies promoting clean energy investment will accelerate this shift, reducing dependency on fossil fuels and lowering greenhouse gas emissions.

Encouraging the use of energy-efficient appliances and practices can significantly lower demand. Public awareness campaigns should educate residents on conservation methods, such as energy-efficient lighting and appliances.

Meanwhile, industries can be incentivized to adopt energy-saving technologies to reduce operational costs and overall energy consumption. Enforcing building codes with energy-efficient designs and setting efficiency standards for appliances will drive the widespread adoption of sustainable practices.

Low-income communities are disproportionately affected by power shortages, often unable to afford alternative energy solutions. The government must provide financial assistance and subsidies to facilitate renewable energy adoption in these areas.

Community-based energy projects and off-grid solutions, such as microgrids and battery storage systems, can ensure more stable and affordable electricity for all residents.

A well-coordinated effort between the government, private sector, and communities is essential to addressing Sabah's energy challenges. By prioritising infrastructure development, energy diversification, efficiency measures, and equitable access, Sabah can pave the way toward a sustainable and resilient power system.

With all that is said and done, one critical question remains: Can Sabah move towards a more equitable and prosperous future for all its communities?



Despite the increase in energy demand, Sabah's energy supply has struggled to keep up, leading to power shortages. (Pic: Bernama)