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Strengthening Energy Security: Key to Sustainable Development in Asia

By Ong Keng Yong and Julius Cesar Trajano

Synopsis

With the growing urgency of energy security in an era of climate change, the option to increase the share of renewables and nuclear energy in the energy mix will increasingly become attractive in Asia. Correspondingly, enhancing regional collaborations can play a vital role in ensuring energy security in a sustainable manner including exploring clean energy and upholding the safe use of nuclear power.

Commentary

ENERGY SECURITY is critical to sustaining Asia's rapid population and economic growth as well as national commitments to reduce carbon emissions to combat climate change. The International Energy Agency (IEA) forecasts that Southeast Asia's energy demand will increase by 80 per cent by 2040. To support economic development, the generation capacity of South-east Asia's power sector will expand by 400GW by 2040, which is equivalent to the current size of Japan and Korea's power systems. At the same time, China and India are expected to contribute 70 per cent of total electricity generated globally.

Rapid energy demand growth requires stable and secure energy sources. It is therefore essential that we obtain a balanced and diverse energy mix to achieve energy security, economic growth and address environmental concerns. Together, Asian countries can enhance regional partnerships towards this goal.

Future of renewables & the nuclear option

Across Asia, countries are working to meet growing electricity demand, with many

investing in renewables amid growing concerns about pollution and over-reliance on fossil fuels. In terms of energy diversification, China, Japan and India are leading the Asian surge to the forefront of global investment in clean energy. Even Singapore, a country known for its resource limitations, has been driving renewables.

However, more can be done. In South-east Asia, wind and tidal energy are largely untapped, and the huge solar potential in the region remains underdeveloped. Moreover, renewable energy sources are often located in remote areas, rendering connection to main power grids a significant technical hurdle.

Nuclear is also an emerging option. China is constructing 27 new nuclear reactors. Japan has re-started its nuclear programme, and Vietnam is embarking on plans for nuclear to enter its power mix, becoming the first in Southeast Asia to do so. Indonesia, too, has expressed interest in tapping nuclear power. However, nuclear safety standards and regulations remain major concerns.

Asia needs to eradicate energy poverty. An estimated 600 million people across Asia suffer from lack of access to electricity and modern energy services. Therefore, we must not only secure the optimal energy mix, but also build the necessary infrastructure to energise isolated and impoverished communities. Sub-regional power trade can help address this issue. For instance, huge hydropower surplus from Laos and Sarawak, Malaysia, may be exported to neighbouring states to alleviate energy poverty.

Regional cooperation in energy security

Regional cooperation can also play a vital role in ensuring energy security in a sustainable manner. One of these infrastructure projects already underway is the Asean Power Grid, which aims to create a power network connecting the national grids of Asean countries to increase energy supply, access and affordability. But there is still a need to further standardise business regulations, technical standards and systems that affect the interconnection of national power grids.

In all, energy infrastructure projects in Asia are projected to require US\$400 billion to US\$700 billion in annual investment over the next 25 years. China's "One Belt, One Road" is an example of an initiative that can set the framework for more collaboration between countries in the region to meet this investment need. Financial institutions like the Asian Development Bank (ADB) and the Asian Infrastructure Investment Bank (AIIB) will also be crucial in financing these projects.

With regard to the growing interest in developing nuclear energy in Asia, regional cooperation is crucial to institutionalise the culture of nuclear safety. In South-east Asia, for instance, the Asean Network of Regulatory Bodies on Atomic Energy (ASEANTOM) was set up in 2011 to facilitate sharing of best practices and relevant experiences in regulating nuclear activities. But stronger national commitments are needed to strengthen ASEANTOM in order to serve as a platform for the promotion of regional cooperation among the regulatory bodies and relevant authorities of the Asean member-states.

Energy security in Asia will be in a stronger state by enhancing regional

collaborations, achieving the optimal energy mix, exploring alternative and cleaner sources, and broadening energy access. While challenges are present, the potential is immense. Efforts in this area will put the region in a good position to influence global efforts to combat climate change and sustain the momentum of Asia's sustainable development.

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