AUTHOR: Raganathini Vethasalam SECTION: NATION AUDIENCE : 175,986 PAGE: 6
PRINTED SIZE: 265.00cm² REGION: KL MARKET: Malaysia PHOTO: Black/White ASR: MYR 13,428
WORDS: 504 ITEM ID: DP0121136062

19 JUN, 2026

Experts: Nuclear energy in M'sia requires a national ecosystem

The Star, Malaysia

Experts: Nuclear energy in M'sia requires a national ecosystem

By RAGANANTHINI VETHASALAM
raga@thestar.com.my

PETALING JAYA: Nuclear energy is not completely out of reach for Malaysia, but experts warn the nation must first commit to a long development process to establish a complete operational ecosystem.

Dr Safwan Shalbi, a senior lecturer at Universiti Tenaga Nasional's Institute of Nuclear Energy, said the real question is not whether Malaysia can develop nuclear energy, but whether it is ready to commit to the long preparation it requires.

"I would say Malaysia is moving in the right direction, but we are not fully ready yet for nuclear power deployment in a practical sense," he said.

Malaysia, he said, already has a strong foundation in managing nuclear-related activities through agencies such as the Malaysia Nuclear Agency and the Atomic Energy Department, supported by the Atomic Energy Act.

> "Clear communication on safety, radiation risks and waste management must be continuous and transparent."
>
> Dr Safwan Shalbi

"This has allowed Malaysia to build experience in radiation safety, particularly in medical, industrial and research applications," he said.

However, he said nuclear power requires a complete national ecosystem.

Safwan said the remaining gaps are mainly in scaling up regulatory capability for power reactors, strengthening long-term financing mechanisms, building specialised human capital, establishing a waste management strategy and ensuring public confidence.

"Nuclear energy depends on highly specialised professionals, and this cannot be developed quickly. It requires long-term training, structured academic programmes and international exposure," he said.

"Even if the technical systems are strong, public trust is essential. Clear communication on safety, radiation risks and waste management must be continuous and transparent."

Financing remains another steep hurdle, given that nuclear projects require high upfront capital and exceptionally long development timelines, he noted.

Waste management must also be addressed from the outset.

On whether nuclear energy is suitable for Malaysia's geography, Safwan said many countries with similar geography such as China, India and South Korea operate nuclear power plants safely.

"Key factors include geological stability, flood risk, access to reliable cooling water, population density, grid connectivity, environmental sensitivity and emergency preparedness.

"At this stage, it would be premature to identify any specific location in Malaysia without comprehensive technical and environmental studies," he added.

He said nuclear energy becomes increasingly relevant as a stable, low-carbon option alongside renewables, as the country moves toward surging electricity demand, industrial growth and coal decoupling under the energy transition agenda.

Association of Water and Energy Research Malaysia president S. Piarapakaran said there must be transparent engagements and disclosure with all stakeholders before implementation.

"So, without transparent engagement and disclosure, there will be very little buy-in. You cannot just place a 'black box' technology and self-proclaim as if it is safe," he said.

Piarapakaran said that several factors must be considered when determining the site for a potential nuclear plant, such as distance to population centres to ensure emergency planning and response can be coordinated with minimal risks.

"Environmentally sensitive areas as well as industrial zones or military bases should be avoided," he added.