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PM Wong's nuclear energy comments at Budget 2025 a 'massive vote of confidence'



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Feedback

Singapore could potentially deploy nuclear energy, and while industry professionals praise the government's decision to plan ahead, they caution that it may be many years before nuclear joins the energy mix. Photo: Bloomberg

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Prime Minister Lawrence Wong [unveiled a slew of energy-related announcements](#) at [Budget 2025](#) on Feb 18, chief among them plans to study the potential deployment of nuclear energy in Singapore.

Nuclear was considered among the "inherently limited" options due to Singapore's lack of natural resources and land, says Wong, but nuclear power, an established low-carbon energy source, was deemed unsuitable for Singapore in 2010.

But a report commissioned by the Energy Market Authority (EMA) concluded in 2022 that nuclear energy could supply about 10% of Singapore's energy needs by 2050.

In July 2024, Singapore signed a landmark deal with the US to study how nuclear technology can support climate and energy needs. The agreement, known as a "123 Agreement", allows for the transfer of nuclear material, equipment and information between the two countries.

On Jan 15, Singapore's Ministry of Trade and the US Department of Energy signed a memorandum of understanding (MOU) to boost collaboration on civil nuclear issues. Under the MOU, both countries will work together on "energy security, [and] promote the development of zero-carbon baseload power in support of our climate goals", according to the statement.

Wong says Singapore is also working on similar cooperation with other countries, especially on [small modular reactors](#) (SMRs). "Presently, only a few SMRs have been deployed around the world, but many more could become operational by the end of this decade," says Wong.

See also: [Singapore to study potential development of nuclear power; take steps to build up nuclear capabilities: Budget 2025](#)

SMRs are an advanced type of nuclear reactor with a smaller physical footprint, allowing them to be built closer to the grid. According to the World Nuclear Association, their small size and passive safety features may appeal to countries with smaller grids and less experience with nuclear energy.

Unlike traditional nuclear reactors, which average roughly 1,000 megawatts (MW) in size, SMRs have a smaller power capacity of up to 300MW. They can be built in factories, delivered in segments by truck or train, and then assembled on-site.

To further support Singapore's goals to secure clean power, the government will add \$5 billion to the [Future Energy Fund](#), which was launched in 2024 with an initial injection of \$5 billion. "Be it electricity imports, hyd



nuclear, we will need to make major investments in new infrastructure.... This will further support our critical undertaking to secure clean power for Singapore," says Wong.

See also: [Asia enters the nuclear embrace](#)

'Massive vote of confidence'

Industry professionals welcome the move and praise the government's decision to plan ahead of demand. However, they also caution that introducing nuclear energy into Singapore's energy mix may take many years.

Singapore-based cleantech investor TRIREC [invested in US-based nuclear fusion designer Type One Energy's](#) US\$29 million seed extension round in early 2023 alongside Bill Gates' Breakthrough Energy Ventures.

Type One Energy has signed an agreement with the Tennessee state government to build a prototype reactor on the site of a decommissioned coal-fired power plant by 2028.

Andrew Wong, director at TRIREC, says Singapore's signal that it will explore nuclear energy is "a massive vote of confidence for the industry at large".

Although nuclear fusion was not directly mentioned, TRIREC's Wong believes it will be a critical avenue to explore when building out Singapore's decarbonised grid. He lists "several advantages" nuclear fusion has over SMRs, which are fission reactors; these include more enhanced safety, abundant fuel, low amounts of waste and higher energy output.

The government has indicated that detailed studies will precede any decisions on actual deployment, notes TRIREC's Wong. "Historically, initial feasibility studies have taken several years; thus, we might expect preliminary findings within one to two years, with further developments contingent upon those outcomes."

See also: [Sustainability leaders welcome \\$5 bil Future Energy Fund, hope for hydrogen breakthrough](#)

Given Singapore's limited land area, SMRs or floating nuclear solutions may be more viable, says Prof Tseng King Jet, who teaches in the Singapore Institute of Technology's engineering cluster.

The government will also need buy-in from the community, he adds. "Public education and engagement will be crucial in addressing societal concerns and building awareness of nuclear safety and sustainability."

Regional partnerships and joint ventures could also play a strategic role in securing expertise, technology and supply chain resilience, says Tseng. "A comprehensive feasibility study should assess these elements to determine nuclear energy's potential role in Singapore's long-term energy strategy."

Technology has moved significantly in recent years to improve the safety of nuclear energy, and this has worked well in countries like France, says Abhi Bhuchar, head of energy and natural resources, Asia Pacific at management consulting firm Oliver Wyman.

"However, given the scale of the financial and regulatory investment, the Singapore government is taking the right steps in evaluating nuclear and other clean energy options, and investing in infrastructure to secure clean power for Singapore," adds Bhuchar.

Singapore's power deals

Singapore's power sector, fuelled mainly by natural gas, accounted for 36.5% — or 21.4 million tonnes of carbon dioxide equivalent (MtCO₂e) — of Singapore's 58.6 MtCO₂e total greenhouse gas emissions in 2022.

Imports of low-carbon electricity are expected to deliver 2.3 MtCO₂e of emissions cuts by 2030 and meet one-third of projected electricity demand in 2035.

Singapore has inked deals with Indonesia, Cambodia and Vietnam to import 5.6 gigawatts of low-carbon electricity by 2035, and much of the green electricity is expected to come from solar, hydropower and wind.

Singapore is importing hydropower from Laos via Thailand and Malaysia under a pilot of the Lao PDR-Thailand-Malaysia-Singapore Power Integration Project (LTMS-PIP), which was expanded in 2024.

In September 2024, Keppel and EMA announced that more electricity will come from Malaysia, increasing the total electricity import capacity to 200MW from 100MW.

Within the region, several countries are planning to include nuclear in their energy mix, notes Wong in his Budget speech. "Malaysia and Indonesia also have experience in nuclear technologies and have operated research reactors for some time."

Selena Ling, chief economist and head of global markets research and strategy at OCBC, says Singapore will likely collaborate with Malaysia and Indonesia. One such research reactor is the Malaysian Nuclear Agency's TRIGA PUSPATI Reactor (RTP), which began operations in 1982.

Kelvin Wong, head of energy, renewables and infrastructure at DBS Bank, commends the government's "forward-thinking approach" of investing in clean energy.

"The \$5 billion top-up to the Future Energy Fund and the exploration of diverse clean energy solutions — spanning electricity imports and nuclear — underscore the need for innovation and energy security," says DBS's Wong. "Leveraging the fund as a catalyst for public-private partnerships could further accelerate the progress and deployment of clean energy solutions."

Wong says DBS is "actively supporting businesses in their transition". "We continue to assess the commercial viability of emerging low-carbon technologies, including SMRs, as they develop. Safety, cost-effectiveness and social acceptance will be key considerations in this evolving land"

Stocks to watch

According to OCBC Investment Research, the Future Energy Fund may benefit companies such as Sembcorp Industries, which has been steadily growing its renewables business; and Keppel, which is involved in a subsea cable network and other clean energy solutions such as hydrogen plants.

OCBC's analysts, led by Carmen Lee, also point to Keppel Infrastructure Trust, which has been conducting feasibility studies on the import of hydrogen and application of green hydrogen in town gas production through its wholly-owned subsidiary City Energy.



advanced materials solutions to aid the transition towards hydrogen energy, say OCBC's analysts.

Exhibit 2: Selected Singapore stocks under coverage

Name		Ticker	Last Price	Fair Value	Potential Upside (%)	Rating
Sea Ltd -ADR	USD	SE US	134.95	154.00	14	Buy
Singapore Telecommunications Ltd	SGD	ST SP	3.32	3.85	16	Buy
Singapore Exchange Ltd	SGD	SGX SP	12.97	13.68	5	Hold
Frencken Group Ltd	SGD	FRKN SP	1.12	1.42	27	Buy
Sembcorp Industries Ltd	SGD	SCI SP	5.43	6.70	23	Buy
Keppel Ltd	SGD	KEP SP	6.85	8.60	26	Buy
CapitalLand Ascendas REIT	SGD	CLAR SP	2.57	3.30	34	Buy
CapitalLand Integrated Commercial Trust	SGD	CICT SP	1.98	2.35	24	Buy
Keppel DC REIT	SGD	KDCREIT SP	2.13	2.43	19	Buy
Parkway Life REIT	SGD	PREIT SP	3.92	4.60	21	Buy

Source: Bloomberg; Internal estimates; updated on 18 Feb 2025

OCBC's selected stocks after Budget 2025

CGS International research head Lim Siew Khee, too, thinks electricity generation company operators Sembcorp and Keppel will be invited to submit bids in any new investments or studies on nuclear energy or other new energy sources.

However, Maybank Securities analyst Krishna Guha thinks it is "perhaps too early to be significant" in terms of financials for Sembcorp and Keppel.



"It is likely to be in [the] consultancy phase for some time, which is revenue for local and overseas engineering consultants. Sembcorp has a specialised construction business and an engineering consultancy but I am not sure if it has the domain expertise in nuclear energy," adds Guha.

Table: OCBC Investment Research

Read more about the **Future Energy Fund**:

- **Government to set up Future Energy Fund, inject \$5 bil to invest in energy transition infrastructure: Budget 2024**
- **Sustainability leaders welcome \$5 bil Future Energy Fund, hope for hydrogen breakthrough**

Read more about **nuclear energy** in Singapore and around the world:

- **Singapore to study potential development of nuclear power; take steps to build up nuclear capabilities: Budget 2025**
- **The UK's first new nuclear site since the 1970s begins licensing**
- **It's time for Germany to admit Merkel's mistake on nuclear energy**
- **New York exploring interest in building out nuclear power**
- **Asia enters the nuclear embrace**
- **Ken Griffin, Amazon invest in next-generation nuclear energy**
- **Google talks to US utilities about nuclear power for data centres**
- **Bill Gates says he's ready to put billions into nuclear power**
- **Singapore's nuclear power potential depends on unproven designs**

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