

Thailand will build its first nuclear power plant by 2022 to meet rising electricity demand, the country's energy minister said recently. "The plan to build the nuclear power plant should be finished by the end of this year," Pityasavasti Amranand told reporters. The goal was for the nuclear plant to start generating electricity in 2022, he said.

The nuclear plant is part of a new 15-year power development plan which calls for a new capacity of 39,000 megawatts (MW) of power, with 4,000 MW of it nuclear. The nuclear power plant would give Thailand an option to produce power without contributing to global warming, the minister said. It would help Thailand meet its international commitments to reduce carbon dioxide emissions. Nuclear energy produces less carbon dioxide (which contributes to global warming) than other energy sources such as coal.

The state-run Electricity Generating Authority of Thailand (EGAT) is looking for a suitable plot of land to build the plant, its chief said. "To build the 4,000 megawatt nuclear plant, you need to have about 2,000-3,000 rai (800-1,200 acres) of land close to the sea to make it more convenient for delivering uranium." EGAT's governor Kraisri Karnasutra said.

The investment cost for the nuclear power plant was expected to be US\$6 billion, Kraisri said. This cost is far higher than the cost of building conventional coal-fired or gas-fired power stations. However, the cost of producing power at the nuclear power plant is 2.01 baht per unit, cheaper than the 2.05 baht per unit for power produced by coal-fired power plants, he said. The Energy Ministry would launch a campaign to educate the public on the positive sides of nuclear power as well as training people in nuclear know-how both domestically and abroad. "People need to be made aware that using nuclear energy can help Thailand reduce its reliance on imported energy sources, especially gas from Myanmar and coal from Australia," Kraisri said.

Thailand drafted its first nuclear power plan in 1991 but it was never implemented due to strong opposition from environmentalists. Nuclear power's image is still tainted by the 1986 Chernobyl disaster. Many of Thai environmentalists continue to point out that nuclear power is not cheap and is far more dangerous than wind, solar, or other forms of power generation. They claim the power industry has also underestimated how expensive it will be to protect a nuclear power station against terrorist threats and accidents. New nuclear power plants must be built far from population centers which also means higher transmission costs than have been considered.

"At the end of the day, the nuclear plant is necessary and we'll have to tell the public clearly why we need it," Kraisri said. In the past, some countries have approved the building of nuclear power plants near major cities, based on the assumption that evacuation plans would be effective. However, a nuclear power plant in New Orleans has three days of warning before Hurricane Katrina and was never successfully evacuated. A nuclear accident may allow only 20 minutes to respond.

Also, nuclear waste is hard to dispose of. At present, about 70,000 tons of spent but highly radioactive fuel are stored temporarily at nuclear power stations around the world. This is in addition to countless tons already buried in the sea, in underground caverns, or being shipped around the world in search of a safe place for disposal. In America, publication of this

information was blocked because it was felt that this nuclear waste could be used by terrorists. Even if isolated areas safe for long-term storage of nuclear waste are found, it is difficult to transport the waste there. Many Thai activists say the plan for the new nuclear plant does not consider these problems.

Recently, a nuclear plant in the state of Alabama (USA) was shut down several times because of operational problems. Also, an advanced nuclear plant in Japan was shut down after leaking radioactive gasses. Thailand lacks plans to deal with emergencies like these.

The question remains whether technological developments might make coal, gas, or oil-fired plants cleaner and cheaper, or so-called renewable power sources such as wind, solar, and water cheaper and more accessible. Certainly there has already been huge investment in the development of all these power sources, as there is continuing investment in nuclear power. Possibly, the safety and security of the people should also be considered.

Instructions: Write a short memo report to the Minister of Energy using information from the above passage.

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existing plan

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advantages

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disadvantages



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Disadvantage: Can Bangkok be evacuated in 20 minutes?

Can Thailand deal with the waste?

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Perhaps alternatives are better?

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