

Should we go the nuclear way? Yes, please

2011/04/03

IN a speech on the Third Update on Malaysia's Economic Transformation Programme (ETP) by Datuk Seri Najib Razak on Jan 11, the prime minister announced the formation of the Nuclear Power Corporation to spearhead Malaysia's nuclear power initiative, first announced in 2008, as part of the ETP.

Malaysia's nuclear power initiative is based on the need to meet future demand for power consumption and to diversify the country's power supply source from an almost-complete reliance on gas and coal, which respectively constitutes 54 per cent and 28 per cent of the total plant generating capacity of 27,700 megawatts (Mw).

Demand for electrical power in Malaysia was 15,100Mw last year, and this is expected to increase to more than 20,000Mw by 2020. This rate is typical for any developing country.

As Malaysia keeps reaching higher levels of power consumption, we cannot continue to burn increasingly prodigious amounts of relatively inefficient coal and gas as power sources. We, like a lot of developing and developed countries before us, have to seriously consider the nuclear option.

Following Japan's Fukushima Daiichi nuclear power plant incident, loud calls have been heard from environmental and anti-nuclear groups against Malaysia's intended adoption of nuclear power.

However, those calls have been merely based on rhetoric, appealing to people's emotions rather than on realistic and practical needs of the nation.

The main criticism of adopting nuclear power in Malaysia is the oft-repeated claim that if the Japanese cannot control a nuclear mishap, then we would fare much worse and, therefore, cannot be entitled or entrusted to handle such a precious resource.

Such insinuation implies that Malaysian nuclear professionals, who will be in charge of the new nuclear power station, would be a bungling lot who will cause a nuclear meltdown even without an earthquake or tsunami. This is collective inferiority complex at its worst.

The critics of nuclear power appear to think that the electricity they blithely consume comes from thin air and does not involve burning prodigious amounts of coal and gas.

Even if these critics are aware, they seem to think that the supply of coal and gas to Malaysia is assured for an eternity and would somehow be magically immune from the presently spiralling inflationary prices of raw materials.

However, my main criticism of the anti-nuclear activists stand is that they have no alternative energy plan that will ever be feasible.

Their energy policy will never go beyond calls for Malaysians to reduce electricity consumption by cutting down air-conditioning and boiling water. They will forever call for the government to "review" the national energy policy to hide their own lack of a viable alternative energy plan.

For example, the usual calls from environmentalists and anti-nuclear activists to consider "alternative" forms of power generation, such as solar power and biomass, are hyperbole at best.

The fact is, solar panels are terrible as main electrical power sources. For example, the Sarnia Photovoltaic Power Plant in Ontario, Canada, which is the largest photovoltaic solar power plant in the world, is sensationally rated at 80Mw, but can only produce an average of 330,000 kilowatt hours (kWh) per day. This is equal to only a 14-Mw conventional generator plant.

Biomass plants are no better. In Malaysia, each biomass plant has a capacity in the range of 2Mw to 15Mw. Many are for private use, for powering palm oil mills.

The capacities of these plants are nowhere near to fulfilling even one per cent of Malaysia's present electrical power needs.

In reality, no solar farm, wind farm or biomass plant has ever successfully replaced any country's main power generator, and it is important for us to recognise that they will never be able to do so.

The major economic countries of China, Japan, South Korea and Russia have turned to nuclear power, which is the correct direction to take.

Despite the exemplary direction taken by these nations for their own economic development, anti-nuclear detractors often cite the retrogressive case of Germany instead.

Germany is significant to environmentalists because of its Nuclear Exit law, which mandates the gradual phasing out of nuclear power.

But what is not admitted is that Germany had to import electricity from neighbouring countries at a whopping 41.6 billion kWh in 2008.

This is a situation worse than many Third World countries, where they do not even allow such things to happen.

By phasing out nuclear power, Germany would have to make up the deficit by importing surplus electricity from France, where ironically, 78 per cent of the electricity is generated by nuclear power.

Either this, or Germany would have to shut down its major industries and in doing so, dismantle its own mighty economy.

China is by far a better example. They have taken big strides in research and development of the next-generation High-Temperature Reactors.

These advanced reactors are designed such that even in the unlikely event where all equipment fails, the nuclear core simply slips back to a safe "standby" state.

The main point I wish to present here is that Malaysia will have to go nuclear, not by choice, but by necessity. The Fukushima Daiichi nuclear incident merely reminds us of the many responsibilities we have to bear with the tremendous power that would come into our hands.

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