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NTS ALERT

Nuclear Energy Special

In Need of Nuclear Energy

At the conclusion of this year's G-8 summit in Germany, world leaders agreed to combat climate change through investment in cost-efficient renewable energy technologies. In particular, they promised to promote international use of clean technologies, biofuel and biomass. Noticeably missing from the final statement was clear-cut support for nuclear power.

Of the G-8 countries, Russia, France, Japan and the United States are the most vocal proponents of new investment in nuclear plants in both the developed and developing world as a key solution to dealing with global warming.

Since then, several developing countries have adopted initiatives to pursue nuclear energy policies. This section takes a look at the efforts made by some Asian states on harnessing nuclear energy to meet energy demands. This edition also includes two short commentaries on Nuclear Energy by Prof. Raja Mohan and Dr. Rizal Sukma.

Indonesia

The Indonesian Government has indicated that Gorontalo, on the island of Sulawesi would likely become Indonesia`s first province to have a nuclear power plant. The announcement came after the republic had reached an agreement with the Russian power company Raoues to set up a nuclear power plant in the province. Nuclear Energy Monitoring Agency (Bapeten) chairman Sukarman Aminojoyo, hoped that the move would encourage other provinces to follow suit and reap the benefits of this alternative source of power.

Sukarman expressed hope that the 70 MW floating nuclear power plant in Gorontalo which will be built in 2008, would contribute to efforts at overcoming the prolonged power supply shortages in the province. He added that as of April 2007, Bapeten had already issued 12,243 permits to use nuclear technology, to 4,169 to industries, 4,814 to medical establishments, 3,222 to radiation protection personnel, and 38 to educational and university research programs.

Yet nuclear energy plans have come under fire in other parts of Indonesia. In central Java, opposition continues to mount over the government's plan to build a nuclear power plant near Mount Muria in the north. The government expects to hold a tender for the project next year, before construction commences in 2010. The 4,000 megawatt plant is expected to supply two percent of the country's total energy demand by 2017.

People living around Mount Muria have, however, strongly rejected the plans to construct the nuclear plant near their homes. The mountain is an environmental and ecosystem buffer for the surrounding areas of Jepara, Kudus and Pati, where many large industries have been established.

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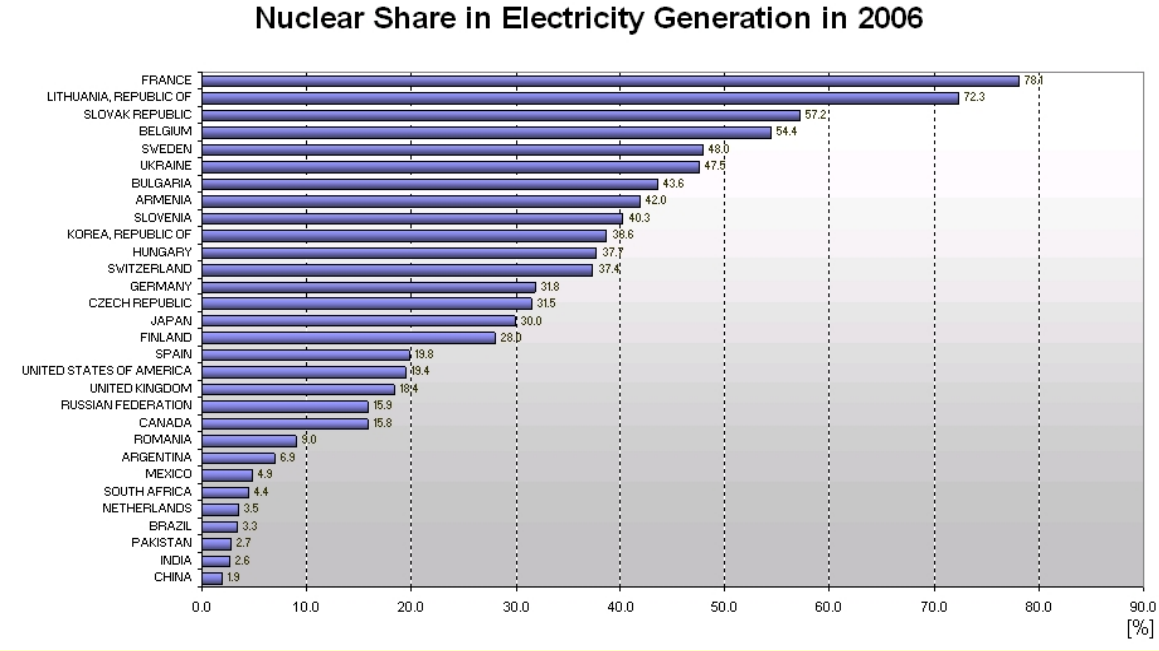
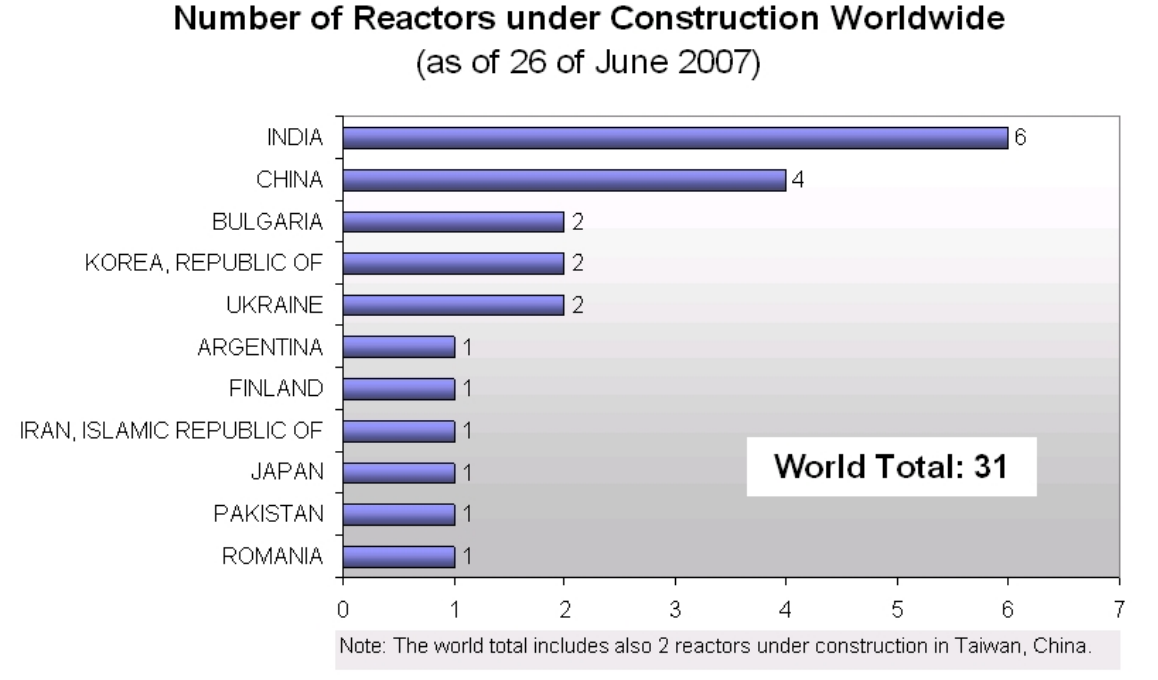
Global Use of Nuclear Energy



Source: Nuclear Power Plants Information, IAEA (2007)



Source: Nuclear Power Plants Information, IAEA (2007)

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To date, nuclear energy makes up roughly 16% of global electricity generation and is largely concentrated in industrialized countries. The pattern is is likely to change progressively given mounting pressures to meet increasing demands for energy in the developing world.

While the highest percentage of existing reactors is in North America and Europe, recent expansion has been most heavily centred in Asia. China, for example, currently has four reactors under construction, and plans a more than five-fold expansion in its nuclear generating capacity over the next 15 years. India has six reactors under construction, and plans an eight-fold increase in capacity by 2022. Pakistan and the Republic of Korea also have plans to expand their existing nuclear power capacity.

Japan has the largest nuclear power programme in Asia, and the third largest worldwide; only France and the United States have more nuclear generating capacity. Japan has 55 reactors in operation, and plans to add 13 more reactors to the grid by 2017, which will increase the nuclear share of Japanese electricity to roughly 40%.

Source

Speech by Dr. Mohamed El Baradei, Director General of IAEA, *Nuclear Power: Preparing for the Future,* at Japan Atomic Energy Agency (JAEA) 30 November 2006
Power Reactor Information System (PRIS), *IAEA*, ,Available from http://www.iaea.org/programmes/a2/index.html

Jepara-based non-governmental organization, said the Indonesian government should reconsider and relocate the nuclear plant site due to the high possibility of earthquakes in the area. Speaking at a discussion organised by the United Development Party (PPP) faction at the House of Representatives, Sunaryo noted that given the presence of 29 hills surrounding Mount Muria, a crack in the earth's crust between the hills could potentially result in earthquakes. The head of the Nuclear Energy Development Center at the National Atomic Energy Agency (BATAN), Sarwiyana, responded by noting that the government had conducted several studies to ensure the safety and suitability of the site. He also added that a crack in the earth's crust would not indicate immediate danger as has been evidenced by the Tsuruga nuclear plant in Japan, which has similar geographic characteristics to Indonesia and is more susceptible to earthquakes.

Head of the PPP faction, Lukman Hakim Syaifuddin, summed up the discussion by highlighting that local communities did not reject the benefits of nuclear power, but rather its potentially adverse environmental effects. He concluded that it was therefore vital for the government to minimize the negative impacts of the plant's construction, while convincing the Indonesian parliament and the concerned communities," Lukman said.

Vietnam

There have been plans to build Vietnam' first nuclear energy plant by the year 2020. According to the Vietnam Atomic Energy Commission, while detailed plans are being mapped out for the plant, there needs to be an emphasis of meeting demanding technological quality requirements and comply with stringent international safety and security standards. Moreover, efforts must be channeled into training human resources to operate the plant.

These plans were announced at a nuclear power conference in Hanoi attended by officials and experts from Vietnam and the International Atomic Energy Agency (IAEA) in June 2007. Discussions centered around developing nuclear power to meet the rising energy demands in Vietnam, which was the world's second fastest economy in 2006. In that same year, IAEA approved six projects valued at almost US$1.5

million to develop nuclear technology in Vietnam in 2007 and 2008.

Prime Minister Nguyen Tan Dung has also expressed Vietnam's interest in providing energy to India and welcomes Indian investment in power generation based on coal and gas and nuclear power.

Thailand

The Electricity Generating Authority of Thailand has released plans of spending an estimated USD 6 billion to build its first nuclear power plants. Each plant will generate 2,000 megawatts of electricity. The government expects to complete the plants by 2021, and has appointed six groups to draft construction plans. The groups will study international nuclear power regulations and formulate a strategy for winning public support for the project. Power companies in countries including Japan have struggled to win acceptance for new nuclear facilities due to growing public concerns about safety.

Thailand's nuclear power initiatives are part of a broader policy of diversifying its sources of energy – including nuclear, natural gas, coal and hydropower. Thailand currently imports about a third of its natural gas from neighboring Myanmar. However, in a bid to satisfy its rising energy demands, Thailand is also looking at buying about 5,000 megawatts of hydropower from the Laos by the end of 2015 and another 3,000 megawatts of hydropower from southern China starting in 2017. Hence diversifying its supply would create a much more sustainable flow of energy and hence facilitate sustainable economic development.

The Thai government's plan to push ahead with construction of nuclear power plants may be reviewed after the upcoming general election in late 2007. Thai Energy Minister Piyasvasti Amranand, noted that while there is no guarantee that the elected government will agree to the nuclear plan, nuclear power must nevertheless be tabled into Thailand's long-term power development plan.

Thailand's military-backed government faced protests earlier this year over plans to build coal-fired plants that would have accounted for as much as 40 percent of the country's new capacity. Public outcry over environmental and health problems associated with older coal-fired plants forced the government to scrap plans for three plants and seek clean alternatives such as nuclear.

Philippines

In the Philippines**,** Press Secretary Ignacio Bunye explained that the preparation for nuclear energy use in the Philippines is meant to keep the country abreast with regional and international trends of tapping nuclear energy as a "viable alternative". He also highlighted that newer and safer technologies developed over the past 20 years would be better able to prevent nuclear disasters such as the Chernobyl plant in the former Soviet Union.

Energy Secretary Raphael Lotilla said that a list of reported prospective nuclear power plant sites had been identified from a 25-year development plan made during the Ramos administration. These plans stated that nuclear power would only be considered after 2022. However, given global calls to address climate change immediately and that training of experts and engineers to run power plants in the Philippines would take 15 years, considering the nuclear option now would seem appropriate.

The government has identified 10 areas in the Philippines where nuclear power plants could be built and has begun a program to train nuclear scientists to man such facilities. Dr. Alumanda Dela Rosa, director of the Philippine Nuclear Research Institute (PNRI) – an attached agency of the Department of Science and Technology (DOST) – however, refused to name all the 10 sites identified by the National Power Steering Committee (NPSC)*, noting that a more thorough study was needed.

While such efforts are commendable to meet scarce energy resources, some are sceptical as to whether this may simply herald yet another financial burden on Filipinos as seen in the past.

In the 1960s until the mid-1980s, the country undertook a nuclear power program, which led to the construction of the Bataan Nuclear Power Plant (BNPP). However, the BNPP was mothballed in 1986 due to the lack of safety standards, economic viability and corruption. (see box on Bataan Nuclear Power Plant). In 1997, the government decided to convert the BNPP into a non-nuclear power plant.

**** In the early 1990s, the Philippines experienced severe power interruptions that caused massive losses in productivity and jobs, prompting then President Fidel Ramos to create the NPSC. The NPSC has been tasked to examine the viability of using nuclear energy in the country.***

Bangladesh

Bangladesh is suffering from an acute energy crisis. Years of mismanagement, poor governance, corruption has almost brought the energy sector on the brink of collapse. It is estimated that only 30% of the 30 million Bangladeshis have access to electricity, which that in itself, is poorly supplied. Bangladesh's current effective power generation from operating plants is about 3200MW against a suppressed daily demand of about 5000MW. This is largely due to mechanical problems in most of the 60 decades-old power plants in various parts of the country.

Bangladesh possibly has the lowest per capita energy consumption in the world. The IAEA estimates it be about 100 kWh per capita electricity generation, which, for obvious reasons, impedes economic growth of the country – trade and business communities suffer with the lack of electricity to facilitate their work. This is exacerbated by the lack of water supply in the country, thus further degenerating the lives of Bangladeshis.

Fortunately, the IAEA has approved Bangladesh's request for building a nuclear power plant for civilian use. According to Tapan Chowdhury, adviser to the interim government and head of the Bangladeshi energy ministry,

The Bataan Nuclear Power Plant Issue

The BNPP is a 620 MW nuclear facility located in Napot Point, Morong, Bataan overlooking the South China Sea. It is constructed at a site 18 meters above sea level. It is a pressurized water reactor (PWR) type of plant. Water under high pressure circulates through the reactor core to absorb the heat generated by the nuclear reactions. The steam generated in this process will then drive the turbine that runs the electric generator.

Issues Surrounding the BNPP

According to the report of the Fact-Finding Mission on the Philippine Nuclear Power Plant undertaken by the Multisectoral Task Force on Power Scheduling, the issues surrounding the BNPP can be categorized as those that concern: (1) safety, (2) economic viability, and (3) corruption charges against the contractors and suppliers of the plant's equipments on the one hand, and against the Marcos Administration on the other hand.

With regards to safety, the fact finding mission pointed out that the plant's location and seismic criteria of its design provide for a safe operation of the plant. Bataan is the best possible site for the plant as argued by both local and international (IAEA) experts. The plant has also been designed to withstand an earthquake up to 0.4g of acceleration while the strongest earthquake that can hit the area could only generate up to 0.35g ground acceleration.

It is said to be protected from any lava flows that may come from a dormant, but maybe active, volcano, Mt. Natib because it sits on a high ground (18 meters above sea level) and is surrounded by deep valleys. Furthermore, its 18 meters above sea level location protects it from tidal waves, the highest one to hit the area being only 16 meters in height.

The Mission also pointed out that the plant design and equipment provide for a safe operation of the BNPP. Its fuel is a low-enriched uranium which is non-explosive while the spent fuel to be generated during the plant's 30 year operation can be stored in the plant's ample storage space.

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Bangladesh was in the top of the list of eight developing countries, which were approved to set up nuclear power plants. Bangladesh's existing power plants are fuelled by gas and coal, which are fast depleting.

Myanmar

Myanmar's nuclear plans, however, have been met with regional and international opposition. Washington denounced the plan, saying that such a facility would be a singularly bad idea given Myanmar's abysmal rights record and non-existent nuclear oversight structure. In response to a question at the World Economic Forum on East Asia, Singapore's Foreign Minister George Yeo added by noting that the Burmese Junta had already enough domestic problems on its plate to handle and seeking nuclear energy would only further complicate the situation.

Myanmar is still under US and European economic sanctions imposed in response to rights abuses and the house arrest of 62-year-old democracy icon and Nobel peace laureate Daw Aung San Suu Kyi. However, the impact of these sanctions has been muted as China, India, Russia and Thailand have spent billions of dollars to gain a share of Myanmar's vast energy resources. Russia, for instance, recently announced that it had agreed to help build a nuclear research centre in Myanmar.

Malaysia

While many Southeast Asians have embarked on nuclear energy programmes, Malaysia has taken the initiative to build a Nuclear Monitoring Facility, the first of its kind in ASEAN and 16th of its kind in the world. Moreover, a Nuclear Monitoring Facility in Malaysia would render it the first developing country to own such a facility.

Deputy Prime Minister Datuk Seri Najib Tun Razak announced at a "Leaders Meet the People" function in Kuala Lumpur, that the 200 hectare facility is worth RM 100 million (USD 29 million). Construction of the Facility – in collaboration with the IAEA – will commence at the end on 2007 and is scheduled to be completed in 3 years.

The Facility will be managed by the Atomic Energy Licensing Board (AELB) and its main function is to ensure that nuclear energy use in ASEAN is only for peaceful purposes thus ensuring a nuclear threat free region.

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With regard to the commercial viability of the BNPP, the Mission argued that nuclear power "represented significant savings over the lifetime" as compared to other plants (gas turbine, coal, combined cycle and oil). It estimated that operating BNPP could generate a savings from "a low of P1.06 billion for geothermal to a high of P3.6 billion for gas turbines annually." It also pointed that nuclear energy is generally cheaper and more stable over longer periods of time compared to other fuels.

Those that opposed the operation of the BNPP, however, argued otherwise. Professor Roland Simbulan of the University of the Philippines (Manila), chairperson of the Nuclear-Free Philippines Coalition (NFPC) pointed out that it is not safe to operate the BNPP. Firstly, contrary to the government's argument, a strong earthquake around the plant's location could cause ground acceleration at the plant's site of up to 0.53g while the plant is only designed to withstand ground acceleration of 0.4g.

Moreover, he warned that the BNPP was a man-made disaster and he reiterated a point made by the National Union of Scientists Corporation – a union of 50 scientists from different countries including the US that was commissioned by the Philippine government to provide a technical audit in 1986, 1988 and 1990 on the BNPP. The Union noted that the plant had "serious defects" in its "cover design, construction, quality assurance, workmanship and project management" that were never addressed by Westinghouse.

Simbulan also argued that the government has been overly optimistic in terms of projected savings when the plant is made operational. He cautions that the figures provided by the government such as the US$1.1 billion savings over a 30-year period of operation fail to include the cost of insurance, training, permanent disposal of nuclear wastes, decommissioning, emergency planning and accidents.

While the Fact-finding mission did not touch upon the issue of corruption on the plant's construction, Simbulan argued that the BNPP was constructed under a "conspiracy of corruption." It was a conspiracy among Westinghouse, Mr. Marcos and his crony Herminio Disini. The BNPP is an overpriced, unsafe plant and one that has left the Filipinos with US$2.2 billion of debt.

Public Opinion on the BNPP

In the 1992 National Survey conducted by the Social Weather Stations, almost half (48%) of the respondents were aware of the BNPP. In terms of the respondents' geographical location, awareness was greater in urban centres (63%) than in rural areas (32%). Furthermore, awareness was low in rural Visayas (29%) and rural Mindanao (23%).

In terms of the people's perceptions as to the safety of operating the plant, it is interesting to note that a slight majority (52%) viewed the plant as being unsafe. It also appeared that upper classes were more apprehensive with 54% of members of higher social stratas being apprehensive of the plant's safety compared to 46% from the lower stratas of society. Male respondents (55%) were more sceptical as to the safety of operating the plant as compared to female respondents (48%). It is also interesting to note that the younger respondents were more apprehensive as regards the issue of safely operating the plant. Sixty-two percent (62%) of the youth (18-24 yrs. old) believed that the plant was unsafe while only 52% of the intermediate young (25-34 yrs. old) and 44% of the older respondents (45 yrs. and older) believed so. Respondents in Metro Manila were more apprehensive (60%) about the operation of the plant as compared to other locales.

One-third (33%) of the respondents were also aware that Westinghouse was the contractor in building the BNPP. Of these respondents, almost two-thirds (67%) were also aware of the out-of-court settlement between the government and Westinghouse. Furthermore, a third (36%) agreed with the settlement while almost a third (30%) disagreed. Class ABC (37%) as compared to class D and E (29% and 25%) was more disapproving while those aged 25-34 (23%) were least disapproving as compared to those aged 18-24 (32%), 35-44 (31%) and 45 & above (37%).

More than half (51%) of the respondents also believed that Westinghouse had bribed President Marcos. People belonging to higher social classes were more convinced (64%) that Westinghouse bribed President Marcos as compared to lower clases (48%). Those living in urban centres (55%) believed that Marcos was indeed bribed as compared to those living in rural areas (39%).

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Towards Safe Nuclear Energy in Asia

By C. Raja Mohan

As Asian governments come under increasing pressure to look at alternative energy sources to hydrocarbon fuels, nuclear power has inevitably acquired some new political and economic traction.

In its Cebu declaration on energy security in February 2007, the Second East Asia Summit recognized that "that renewable energy and nuclear power will represent an increasing share of global supply". The EAS also highlighted the urgency of reducing the "dependence on conventional fuels through intensified energy efficiency and conservation programmes, hydropower, expansion of renewable energy systems and biofuel production/utilization, and for interested parties, civilian nuclear power".

The insertion of the phrase "for interested parties" before "civilian nuclear power" in the Cebu declaration is a clear hint that not all of the 16 nations in the EAS process are convinced of the case for expanded use of atomic power generation.

The G-8 Summit in Germany during June 2007 too was focused intensely on the question of global warming. The G8 leaders, however, could not come up with an unambiguous endorsement of nuclear power. While the U.S, Japan, France and Russia were strongly in favour of increased used of nuclear energy, others were less than sanguine. In Northern Europe, especially, there is a strong distaste for nuclear power.

Nuclear power has acquired a varying degree of emphasis in the national energy strategies of different Asian countries; it also generates deeply divisive debates within a number of countries in the region.

During the first wave of nuclear power plant construction in the 1960s and 1970s, only a few countries of Asia chose to focus on the development of this very special source of electric power generation.

India was the first to build a nuclear power plant in Asia which came on line in 1969. While India's nuclear power programme ran into international obstacles after its first nuclear test in 1974, Japan became the host of Asia's largest nuclear power programme. And South Korea soon joined the ranks of major nuclear power producers.

As of May 2007, Japan operates 55 nuclear power reactors with an electric power generation capacity of 47,587 MWe. Nuclear power contributes 30 per cent of total electric power generation in Japan. South Korea runs 20 reactors with total capacity of 17,454 MWe; the share in electric power generation stands at 38 per cent.

China, a late starter in the use of nuclear energy for commercial purposes, has unveiled in recent years a massive plan for generating atomic electricity. It hopes to build 40,000 MWe of nuclear generation capacity by 2020. Nuclear energy has become a crucial component of China's energy security strategy.

Although the rest of the region has tended to keep away from nuclear power that dynamic now appears to be changing. A number of countries in the region are now keen to develop civilian nuclear power programmes.

Indonesia, Vietnam, the Philippines and Thailand, among others, have announced plans of varying intensity and commitment to the greater use of nuclear power generation in the coming years.

The renewed interest of the regional governments does not necessarily take away the popular or policy concerns about the potential dangers from the expanded use of nuclear power in Asia.

There were many factors that halted the pace of nuclear power generation worldwide from the late 1970s. The proximate reason was the heightened public concerns about the safety of

nuclear power generation in the wake of the Three Mile Island in the United States in 1979.

As a strong wave of popular opposition to nuclear power emerged in the 1980s, new plant construction in the West, except France, virtually came to a halt. Besides apprehensions about potential accidents in nuclear power plants, there were also fears about the storage of large quantities of spent fuel from reactors.

Equally important was the concern about the costs of nuclear power. The high capital costs associated with nuclear plant construction and the long lead times in building them turned nuclear power increasingly uncompetitive in the market place.

Intense political concerns about the spread of nuclear weapons as a consequence of expanded use of atomic power for civilian purposes saw the United States strongly discourage the promotion of nuclear power in the developing world.

As the world began a new debate on energy security at the turn of the new century the prospects for nuclear power appear to have improved. On the economic front the high prices of oil seemed to improve the cost calculus of nuclear power. The nuclear industry has focused on developing standard designs of nuclear reactors and cut down on the lead times and scale down the capital costs.

On the safety issues, the new generation reactors are designed around the notion of "inherent safety" that reduces the potential impact of human error in the maintenance of the plants. New and better ideas have helped address some of the concerns on waste management. Above all, the growing international concerns about global warming have helped make a strong case for nuclear power generation.

Meanwhile, the Bush Administration has reversed more than two decades of American opposition to the use of nuclear power at home and abroad. The Bush Administration believes it is possible to develop "proliferation resistant" nuclear fuel cycles and construct an unbreakable firewall between civilian and military uses of nuclear power.

This changed environment for nuclear power does not, however, minimize in any way the necessity for a broader public discourse on nuclear energy in Asia. All governments in the region must address the many challenges—including safety, economic efficiency, and the danger of proliferation—that go with nuclear power generation.

Even more important is the need for a collective regional approach to nuclear power. There is no doubt some of the countries in Asia will move towards increased atomic power generation in the coming years. This in itself will have potential effects on other countries in the region. Nuclear accidents in one country will have an impact on the neighbours and suspicious nuclear activity in one could generate a competitive dynamic among others.

In the past a number of ideas for greater regional cooperation on nuclear energy in Asia have been floated. These include proposals for a region-wide organization like "ASIAATOM", modeled after the EURATOM that was set up in 1957 to promote greater coordination among the nuclear energy policies of the European nations.

The CSCAP has been promoting greater nuclear transparency in the region through such confidence building measures as information exchange. Under a Japanese initiative, a Forum for Nuclear Cooperation in Asia has been set up a few years ago to bring atomic energy establishments in the region together.

The times may now be ripe for going beyond these ad hoc initiatives and consider a more comprehensive framework for dealing with both the opportunities and threats arising from the greater use of nuclear power in Asia.

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Thoughts from Indonesia: National Nuclear Energy Plan Needs Rethinking

By Rizal Sukma

For most Indonesians, the government's plan to start using nuclear energy by 2016 is still a distant issue. But for the people of Central Java, the prospect of living next to a nuclear power plant is regarded as a nightmare that could become a worrying reality. That is why thousands of people from Jepara, Pati and Kudus staged a large demonstration last week to oppose the plan. They plan to stage similar demonstrations again on June 12 and 19.

It is heartening to see that grass roots-based resistance to the plan has gradually built up. It is true that the role played by activists from various non-governmental organizations has been instrumental in raising public awareness to the potential dangers of nuclear energy. It is also true that the issue of safety has been at the core of public anxiety over the plan.

No one denies that the lack of energy constitutes one of the key problems hampering economic development in Indonesia. Every one in his or her right mind would also recognize the growing demand for energy if Indonesia is to sustain its economic growth. We all understand that the demand for electricity, and the need to secure a long-term electricity supply, is more pressing in Java. We all know that after 2016, Java and Bali alone will need an additional 1,500 to 2,000 megawatts annually.

However, dismissing the people's concerns -- as voiced by some government officials -- by accusing them of being a reflection of their lack of understanding and information is indeed a display of arrogance. They do not fear the prospect of living next to a nuclear power plant simply because of the Chernobyl nuclear accident. The opposition displayed by the people of Central Java, and by others across the nation, is in fact based on very rational grounds.

First, and foremost, there are safety fears. To be precise, there is strong doubt -- even distrust -- that whoever administers the nuclear plant will have the ability and absolute commitment to ensure the safety of a nuclear plant. After all, there have been many cases that demonstrate that negligence is in fact still a serious problem in this country.

Second, the concern over safety is also based on the fact that Indonesia is sitting on the "Ring of Fire." As earthquakes have become more and more frequent, it is clear that any plan to build a nuclear power plant needs to take this concern seriously. We do not want to hear the government say, "don't blame me, blame the earthquake" if an accident occurs. Indeed, it is not difficult to envision that some government officials would certainly resort to such an excuse.

Third, there are also concerns over corruption that could undermine the safety of the plant. Who can guarantee that the project would be corruption free and therefore the nuclear power plant would be 100 percent safe?

Fourth, do we really need nuclear energy as a source of electricity? We often hear politicians proudly claim that Indonesia is a country rich in natural resources. True, our traditional sources of energy -- oil and gas -- are being depleted. But, the people also need to know why we cannot think about other alternatives beside nuclear energy? What about geothermal, bio fuel, and other energy sources?

If the government insists on building the plant and ignoring the people's concerns, then we are clearly witnessing a problem in the making. The people's resistance could increase and that is of course a recipe for new tension in society-state relations. If the tension escalates, we definitely do not want to see a repetition of the Pasuruan incident in Jepara.

Therefore, the government needs to rethink its plan. The future of economic growth and progress should not merely be based on the availability of nuclear energy. We need to learn from countries that continue to advance

economically without resorting to nuclear energy. And there are many examples out there.

We should not see the people's opposition to the nuclear power plant as an obstruction to economic progress. The people should be allowed to determine their interests and they deserve to be heard and accommodated. More importantly, do not simply blame the people's view and aspirations on the lack of economic progress in this country.

The problem facing this country is not "too much democracy" as Vice-President Jusuf Kalla said during his visit to Beijing. In fact, the key problem is "not enough democracy". After all, democracy will work if we stop using democracy as a tool for personal interests. We should now begin to concentrate on how to consolidate democracy further so that democracy becomes a catalyst for, not an impediment to, progress.

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