

[PL3-2] Nuclear Energy and Our Green Future

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Full Summary

The Plenary Session “Nuclear Energy and Our Green Future” closed the Asan Plenum 2011 to analyze the future of nuclear energy as a part of the world’s clean energy portfolio. The panel particularly focused on the viability and challenges of nuclear energy in a post-Fukushima environment. Moderated by columnist Simon Long, who has spent a career reporting on East Asia with *The Economist*, *Banyan*, the *BBC* and the *Guardian*, the panel also included nuclear energy experts Dr. Suzuki Tatsujiro of the Japan Atomic Energy Commission (AEC), Dr. Chang Soon Heung of the Korea Advanced Institute of Science and Technology (KAIST), President and CEO of the Stimson Center Ellen Laipson and Director General of the Arab Atomic Energy Agency (AAEA) Dr. Abdelmajid Mahjoub.

Dr. Suzuki began with three points regarding the future of nuclear energy. First, he looked at the definition of a “green future.” He argued that although many see a green future as a way to respond to climate change, he would like to broaden this definition to include the promotion of nuclear technology and energy in its own right in a transparent, peaceful and democratic way. Secondly, he discussed the assessment of nuclear energy after Fukushima. He argued in a post-Fukushima world, governments must holistically reassess nuclear energy programs in order to gain the public trust. This reassessment, according to Suzuki, should include a review of regulations and safeguards. It should also include all aspects of the cost of nuclear energy, such as nuclear waste. Dr. Suzuki argued that the lesson from Fukushima is that without satisfactory safeguards, there should be no nuclear energy. In response to a statement by Dr. Suzuki that the Japanese parliament already initiated such a review, moderator Simon Long asked whether Japan’s reassessment includes a review of the regulatory framework, which has been criticized as inadequate after the Fukushima disaster. Suzuki responded that Japan’s goal is to set up an independent regulatory framework, although this will take time given the enormity of the task. Finally, Suzuki argued that although Fukushima was a crisis situation, it could also be a great opportunity to move toward a green future. For example, one goal of Japan is to build an eco-friendly area in the earthquake devastated region.

Dr. Chang then expanded upon Dr. Suzuki's look at the definition of a green future. Chang included "green growth" as an important aspect of a green future, arguing that clean energy will be an important aspect of future economic growth. Nuclear energy is particularly needed as part of a low-carbon energy portfolio because it is cheaper than other forms of renewable energy, namely solar. He attributed South Korea's nuclear energy as the reason South Korea is able to maintain relatively low electricity prices. Chang contrasted South Korea's successful energy portfolio to North Korea's inability to provide cheap and abundant electricity. He argued that North Korea would be able to provide electricity for its citizens if it did not spend its resources on nuclear technology for less peaceful means. Finally, prompted by Mr. Long, Dr. Chang joined Suzuki in his call to take a second look at regulations in moving forward post-Fukushima. Chang concluded that Fukushima has impacted the attitude of South Koreans toward nuclear energy by highlighting the need to emphasize nuclear safety when looking at the future of nuclear energy as part of South Korea's clean energy portfolio.

The third speaker was President and CEO of the Stimson Center Ellen Laipson. Laipson focused on the Persian Gulf region as it in many ways represents energy of the 20th century. She explained that despite the fact that many of the Gulf States are currently able to provide all their energy domestically with fossil fuels, they need nuclear energy for domestic use. Nuclear energy is necessary because many of the Gulf States made a strategic decision that it is better to deplete their fossil resources more gradually for export while diversifying domestically. Diversification of energy sources is especially important given that the region's resources, such as water, are increasingly scarce and will push energy costs up drastically in the next 30 years.

Laipson then continued with the theme of the previous speakers in defining a green future. She argued that "green future" is a subjective term and means different things for different regions. To many in the Gulf region, it means the ability to sustain their increasingly energy-intensive lifestyles in the long run and provide for the region's deficit in natural resources. This image is opposed to that in the U.S., where a green future is often defined by the daily activities that make one's lifestyle green, such as recycling.

Finally, she predicted that nuclear energy will be a key component of the Gulf's energy portfolio in the future. Saudi Arabia in particular is leading the switch to nuclear energy, although it is still seen as a long term transition. Even though there is nuclear cooperation at the regional level, Saudi Arabia sees the transition as a national goal and is already enriching uranium itself, an activity which makes the U.S. nervous given the extremists in the region actively searching for fissile material. Despite the challenges, Laipson sees nuclear energy, hydrocarbon and solar, as the primary sources of renewable energy in the Persian Gulf, a

region that is increasingly recognizing the need to include renewables as part of its energy portfolio.

The final speaker, Dr. Mahjoub, followed Ms. Laipson to outline the nuclear future of the broader Arab world. He agreed with Laipson that although the Arab countries have resisted the development of nuclear energy in the past, the increasing scarcity of resources in the region, coupled with rapid industrial development, necessitate an expansion of nuclear energy. He explained that the extent and cost of climate change in the region will depend on the availability of technologies for green development. Nuclear technology is especially needed to power water desalination as the region finds a means to sustain the population in a way that is less carbon intensive than fossil fuels. The need to desalinate water, he argued, is a particularly salient reason to develop nuclear energy, since the region is expanding agricultural production at a time when the population is rapidly rising and water is becoming increasingly scarce for agriculture, consumption and industry.

Although he hopes that solar technology will make a breakthrough so that it can be used 360 days a year, Dr. Mahjoub said that in the meantime, the region needs nuclear power. “Nuclear power,” he said, “will pave the region for a smooth transition” from fossil fuel energy to renewable sources and provides stable production of electricity. He concluded with a note of caution regarding the intersection of nuclear energy and efforts to control nuclear weapons proliferation. He argued that stopping the proliferation of nuclear weapons should not be a reason to deny the region of nuclear technology, especially given the region’s strong need for effective disposal of nuclear waste. “A world free of nuclear weapons,” said Dr. Mahjoub, “should not be a world free of nuclear science and technologies.”

The panelists all expressed a positive outlook on the future of nuclear energy, to the point that some were questioned by audience-members about their seemingly uncritical optimism. One audience member, noting that human error was involved in every nuclear disaster, asked Dr. Chang in the question and answer session how human error can be minimized to prevent future catastrophes. Dr. Chang simply responded that the best way to reduce human error is to create the best possible safety manual and educate operators on the use of that manual. Another questioner asked Dr. Mahjoub how he will guarantee the security of a peaceful nuclear reactor in the future, while noting that Israel has no civil nuclear program because of the fear of a terrorist attack. Dr. Mahjoub seemed to argue that there is no security problem in the Arab countries, stating that all Arab countries have signed agreements and ratified all treaties with the IAEA in regards to regulation and the fulfillment of national safety standards. The IAEA, he explained, will have a role to regulate and inspect uranium resources within user and producer countries. Dr. Mahjoub concluded, “All Arab countries are carrying out

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nuclear safety and nuclear security programs and programs are underway under close cooperation with friendly countries to ensure . . . nuclear facilities are protected.”

Despite their optimism, the panelists agreed that there are obstacles to nuclear energy, such as disagreements over cost projections and safety concerns. They agreed that especially in a post-Fukushima world, a renewed look at regulations, safety and security is needed to secure the public trust of nuclear energy as we move toward our nuclear future.

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