

Session 5: Peaceful Use of Nuclear Energy

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Summary

The Panel, chaired by Miles Pomper, targeted four core aspects of a nuclear revival, namely, how likely it is, what are the governance challenges it poses, strategies to ensure adherence to nonproliferation norms, and the issue of waste management.

Sharon Squassoni presented an overview of nuclear energy expansion, noting that, today, 14% of electricity generation worldwide is nuclear, with 29 countries operating over 400 nuclear power plants. Importantly, there are no geological repositories yet. She questioned the conventional wisdom for the drivers of the expansion, namely electricity growth, climate change and energy security. For instance, when it comes to electricity growth, the projections are largely based on GDP growth and it is uncertain as to how accurate those economic forecasts can be. Ms. Squassoni also addressed the issue of costs, stating that the most effective way you make nuclear power more competitive vis-à-vis other energy options is by imposing a tax on carbon emissions. She also argued that safety concerns following the Fukushima incident may result in cost increases as plants may be required to shut down in order to undergo safety checks.

In response to a question, Ms. Squassoni said that South Korea is poised to become a major exporter of reactors and that it is therefore important for it to be at the forefront of discussions on codes of conduct on exports.

Trevor Findlay's presentation focused of global governance of a nuclear renaissance. Throughout, Mr. Findlay, stressed the nexus between safety, security and safeguards when it comes to nuclear energy. He noted that some of the newcomers do not have a safety and

security culture, nor a national authority concerned with these three key components. Mr. Findlay considers the universalization of existing treaties an important component of a strengthened nuclear governance framework and noted that some states have yet to conclude Comprehensive Safeguards Agreements even though these are required under the Nonproliferation Treaty. He noted the need for the IAEA to pursue advanced technologies to detect non-declared material, for which more financial support is needed.

He also advocated for a mandatory peer review system for safety checks at the facility level, and noted that there is no peer review system whatsoever when it comes to nuclear security. In response to a question, Mr. Findlay said that the Nuclear Security Summit should endorse the IAEA's work in nuclear security, bolster the Nuclear Security Fund, and recognize the nexus between nuclear security and safety.

Leonard Spector advocated for a persuasive approach to ensure that newcomers adhere to nonproliferation and other international norms in five areas: reinforced nonproliferation controls, safety, security conventions, liability, and broader nonproliferation credentials.

Tom LaTourette addressed the issue of waste management and diverse policy options as influenced by varying sets of priorities in the decision-making process. His presentation was based on the experience with proposals to establish a geological repository in the United States. One of the most proactive policy choices he outlined entailed advanced fuel cycles, which he noted would require a significant financial and time investment.

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