

Japan's Energy Policy for 2012 and Beyond

March 28, 2012



Left to right: Hugh Patrick, Kiichiro Sato, Lex Heslin, Minoru Takada, Ed Lincoln

The Center on Japanese Economy and Business (CJEB) held an interdisciplinary panel discussion on the prospects for Japanese energy supply in the aftermath of the Fukushima Daiichi nuclear power plant crisis beginning March 11, 2011. This discussion featured Kiichiro Sato, President of JETRO New York; Lex Heslin, President and CEO of Beautiful Earth Group; Minoru Takada, Senior Policy Advisor on Energy at the Strategic Planning Unit in the Executive Office of the Secretary-General at the United Nations (UN); and Edward Lincoln, Professorial Lecturer at George Washington University. Hugh Patrick, R. D. Calkins Professor of International Business Emeritus and Director of CJEB, moderated the event.

Professor Patrick opened the session by pointing out that only one of Japan's 54 nuclear power plants is currently in operation because nuclear plants are closed down every 13 months for routine maintenance, and none have been reopened since March 2011. This requires large adjustments since Japan has sourced nearly 30 per cent of its energy from nuclear power. As Japan shifts more to fossil fuels, this will likely have severe implications on



Above, left to right: Hugh Patrick, Kiichiro Sato, Lex Heslin. Below: Kiichiro Sato

other issues such as air pollution, health, foreign trade and its diplomatic relations with other countries.

Mr. Sato gave an overview of the initiatives that a transitioning Japanese government has undertaken to review current strategic energy plans in the aftermath of the crisis. Companies have been necessarily tapping into more oil and natural gas sources to make up for the loss of energy from the shutdown of nuclear power plants, but this has been challenging for the economy given high energy prices in Japan, and the geo-political instability that continues to exist in the Middle East. As such, the supply structure of the country's energy sources must be fundamentally revised, achieved by strengthening current power-saving conservation measures, accelerating the development and utilization of renewable energy sources, and devising and promoting the

cleaner use of fossil fuels. The country's feed-in tariff program, which obligates electric power companies to purchase electricity generated from renewable sources beginning in July 2012, is a positive step in this direction.

On the other hand, Mr. Sato said that there also exists strong opposition in Japan toward reducing nuclear power reliance. This group believes that Japan should maintain its technical infrastructure and specialists to ensure nuclear security as well as fulfill its international responsibility toward nuclear power safety efforts in other countries.

Mr. Heslin observed that as countries have sought to gain energy independence, there has been a global increase in renewable energy, including the creation of green jobs. The share of existing renewables in Japan, however, remains low by world standards, being the world's 3rd largest economy and the 6th largest emitter of greenhouse gases. He expressed optimism on the expansion opportunities in solar, wind, hydro, geothermal and tidal sources, arguing



Lex Heslin

that these would lead to significant job creation and industrial growth in a country faced with a rapidly aging population and already endowed with a well-developed technology infrastructure. Japan's competitive advantage in systems integration present unique opportunities over a quickly advancing China in the business, and Mr. Heslin encouraged government investment in a smart grid to respond to changes in demand and supply of various energy sources. He also recommended emphasizing education in energy issues in order to fill in the existing knowledge gaps amongst Japan's entrepreneurial groups in this area.



Minoru Takada

Mr. Takada explained that the UN's focus on energy has not been a mere response to the crisis, given that energy is crucial and integral to other important facets of the UN's mandate such as poverty, health, and development. Acknowledging Mr. Sato's and Mr. Heslin's policy recommendations, he argued that there must be a wider systemic process to manage local structural problems as Japan's economy evolves. Furthermore, there should be greater alignment between the various groups of people

who accept these localized systems on behalf of Japan as a whole, as well as citizens' voices and the government's decision-making processes. He expressed regrets that the current incentivized energy system has led to shortsightedness in policy-making. As the General Assembly declared 2012 a year of sustainable energy for all, Japan can benefit from the UN's ongoing efforts at creating a global platform for initiatives on furthering sustainable energy solutions.

Professor Lincoln argued that the economic implications of the Tohoku disaster has not entirely adhered to the "standard procession of consequences" one would expect when a natural disaster strikes. Significant damage to several manufacturing factories in the region has hitherto been largely and quickly restored, and the legacy of the crisis has been that of the ongoing controversy regarding the national energy supply. He outlined the political considerations that cloud long-term prospects in energy, including the possible decision to rebuild Tohoku, a region that was already losing population prior to the crisis. In addition, he argued that getting rid of nuclear power plants and reverting to a complete reliance on oil and natural gas is an unsustainable option economically, as it



Ed Lincoln

would increase imports and reduce or eliminate Japan's trade surplus. He noted that the many fossil fuel plants that were mothballed suggests Japan before 2011 had excess capacity; and as these lower-productivity plants are re-opened, costs will rise and Japanese productivity will be adversely affected. It would be preferable for Japan to undertake a radical and innovative direction towards power supply, involving possibly an overhaul and restructuring of the industry, the production of a better national electric grid, and a bigger focus on renewable energy. He acknowledged that this would take time and a significant amount of determination by the government.

Question & Answer Session



Left to right: Hugh Patrick, Kiichiro Sato, Lex Heslin, Minoru Takada, Ed Lincoln

Professor Patrick opened the Q&A session by wondering how Japan's feed-in tariffs could be priced in order to ensure that the current energy supply system continues to be an attractive option.

Mr. Sato pointed out that some of this new energy has already been bought, and acknowledged that balancing the price of the tariff to ensure that users will increase their usage of renewable energy is extremely important. Mr. Heslin noted that tariffs usually come in at a necessarily high level in order to attract investors, given high barriers to entry in these industries. Even if the government decides on a tariff that feeds in over a few years, this high tariff would be beneficial since it would be robust enough to attract potential investors who may not otherwise be interested.

Professor Lincoln asked about the possibility of sourcing renewable energy from oceans, given that Japan would likely be able to accommodate the wide variety of technology required in such a process.

Mr. Takada responded that determined and upfront investments by the public sector are necessary to make this a realistic option, but expressed doubts on this hefty government commitment. Mr. Sato pointed out that despite this, many companies, including U.S.-based companies, have expressed interest in investing and bringing in new technologies to the system.



CIEB Visiting Fellow Prof. Etsuro Shioji

An audience member wondered how Japan could afford a robust feed-in tariff that can drive a changing industry in renewable energy, given its high debt levels.

Mr. Sato responded that the cost of the tariff is largely transferred from the companies to the end-users, so that the ultimate price of electricity will likely go up to finance the program. Professor Patrick added that economies adjust in the face of higher prices, just as labor is now much more expensive in Japan than it was 20 years ago.

An audience member expressed his regret that much of the current debate on pricing strategies has been centered on Tepco's financing needs, when prices should reflect the social costs to users instead. Furthermore, the Fukushima disaster occurred as a result of obsolete, worn out power plants, and postponing the renewing and rebuilding of new plants would mean sticking to dangerous, older plants, which should be long retired.



Professor Lincoln replied that that the disaster was not a result of old reactors, but that of a critical design flaw, particularly in its location strategy. Promisingly, these are issues that can be easily solved and dealt with.

Another audience member pointed out that the government does not appear to have conducted, or

articulated its findings on, a comprehensive cost-benefit analysis on how different sources of energy can coexist in various proportions.

Mr. Sato explained that, with limited information on changing energy trends, it has been difficult to work out comprehensive analyses. But the Japanese government has conducted many studies on different sources of energy and has made efforts to come up with a report that gives an overall perspective. He reiterated that securing greater transparency in the policy decision-making process within the government is a high priority following the disaster.

Professor Patrick closed the session by noting that the government report on feed-in tariff prices and the report for Japan's comprehensive energy strategy committee hopefully will provide answers to many of these questions. He concluded that the role of the government has been primarily to provide information to such committees, though not necessarily to the public. He hoped that some of these findings would be communicated broadly, thus contributing to a more meaningful public discussion and debate.

The Columbia Business School Energy Club and the Student Energy Association of the School of International and Public Affairs cosponsored this event, in collaboration with the Japan Society as an Outreach Partner.

