

## **My thoughts on Energy Policy Lectures at University of Tokyo for 2022**

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I have taken charge of a course titled “Energy Policies” organized mainly by the University of Tokyo Graduate School of Public Policy since FY2010. Annually, an average 100-plus graduate and undergraduate students, including those from the graduate school and the Faculty of Economics, register for the course. In the latest term to early July, I gave 13 lectures on Japanese and world energy policies for about 100 students who registered for the course. Questions from students at the lectures indicated their interests in energy policies, while their reports showed their awareness of energy policy issues. For the latest term, I asked students to submit reports on what Japan’s energy policies should be like in the dramatically changing international energy situation. Their reports indicated how they are aware of and interested in energy policies. In the following, I would like to share my thoughts with the readers of this article on interesting points of the discussion including those in these reports:

First, the reports emphasized students’ interest in stable energy supply or energy security. Last year, students’ awareness centered on how to deal with carbon neutrality. As Japan was working out the sixth Strategic Energy Plan, media reports covered Japan’s announcement of the 2050 carbon neutrality goal, its enhancement of a greenhouse gas emission reduction goal (to cut GHG emissions in FY2030 by 46% from FY2013) pledged at the climate summit in April 2021 and other events related to carbon neutrality. In May 2021, the International Energy Agency released the “Net Zero Emissions by 2050 Scenario” as a backcasting roadmap. It was natural that students’ interest focused on carbon neutrality at that time. This year, however, the situation turned around from last year. Russia launched its war of aggression in Ukraine, leading the world to feel the reality of this kind of crisis. Amid the Ukraine crisis, energy prices have skyrocketed, prompting U.S., European, Russian, Middle Eastern and other leaders to embark on the battle over energy security, as frequently reported by media in the world. Energy price spikes and market destabilization have led Japanese people to recognize that the Ukraine crisis is not a problem for someone else. Many of the reports by the students emphasized that energy security should be a top priority for energy policies.

Another factor that led the students to get interested in stable energy supply was the tighter electricity supply-demand balance experienced in Japan. The electricity supply-demand balance in Japan tightened in March and late June, forcing the government and electric utilities to request consumers to reduce electricity consumption. The students might have felt the tighter electricity supply-demand balance as a serious problem that hits close to home and shifted their focus of interest to energy security. As well as the Ukraine crisis, the tighter electricity supply-demand balance made headlines, with an even tighter balance forecast for the coming winter, leading the students to get more interested in energy security. Regarding the Ukraine crisis, the Sakhalin 2 issue might have exerted great influence on the students’ awareness. They might have shared a sense of crisis that if liquefied natural gas supply from the Sakhalin 2 project in Russia becomes insecure, stable energy supply in Japan may be endangered.

Second, I would like to note that the students have not lost interest in carbon neutrality and

other decarbonization initiatives while their interest in energy security has grown sharply. Some of the students argued that decarbonization should be put aside now. However, most of the students are considering how steadily Japan should address decarbonization. They also indicate their interests in how decarbonization initiatives would be developed in the world and in relevant future trends in the United States, Europe, China and other regions.

Third, I feel that the students' views about nuclear energy are changing dramatically. They are strongly aware that if Japan is to enhance energy security and tackle decarbonization in consideration of its realities (including its resources endowment and energy supply/demand structure), it may have no choice but to give priority to nuclear. Students attending my course had mostly taken relatively neutral positions on nuclear. In the past few years, I had felt that a perception that it would be necessary but difficult for Japan to use nuclear energy had been growing, reflecting a significant delay in the restart of nuclear power plants. Through my lectures this year, however, I felt that students' interest in nuclear was growing dramatically due to a comeback to nuclear energy in Europe amid the Ukraine crisis, growing hopes on small modular reactors and other new nuclear technologies, and Japan's tight electricity supply-demand balance. As a matter of course, students might have understood various challenges regarding social acceptability, law and regulations for nuclear energy, as well as numerous complex or difficult issues including the pending disposal of high-level radioactive wastes. Many of the student reports indicated that as nuclear energy is an extremely important option to simultaneously achieve Japan's S+3E's (safety plus energy security, environmental protection and economic efficiency), the government's energy policies should play the most important role in promoting nuclear energy.

Fourth, the student reports also indicated great hopes placed on renewable energy as a key option contributing to energy security and decarbonization. The students are considering what is required to further promote renewable energy in Japan and what policies should be adopted for renewable energy. This year, however, an argument that renewable energy is not necessarily any almighty solution has been growing. This may be because environmental destruction and other troubles regarding renewable energy power plants have become controversial on social media. Also contributing to the growing argument may be the fact that social media has recently taken up renewable energy power generation's intermittency as a factor behind tightened electricity supply-demand balances in Japan and other major countries, costs to integrate intermittent renewable power sources into the grid system, the inertia issue with renewable energy sources and other topics that had not been familiar to students. Regarding exposure to media, students have grown interested in hydrogen and ammonia technology. Few of the latest student reports failed to discuss the importance of the innovative technology. In the context of decarbonization initiatives, the hydrogen and ammonia technology is positioned as a leading measure.

Fifth, the student reports indicated great interest in policy trends in the United States, Russia, China, India, Saudi Arabia, Iran, Germany, France and other major countries while showing interest and awareness regarding the stable procurement of oil, natural gas and LNG amid dramatic changes in international energy markets. A particularly interesting point to me is that the students are interested in what role Japan should and could play in stabilizing the Middle East on which Japan depends heavily for energy supply, although Russia now attracts global attention.

How young people as future leaders of Japan are tackling Japanese energy issues is significant for Japan's future. It is significant for me to learn about their awareness through my lectures.