

Energy Transition in East Asia: Challenges and Perspectives in Taiwan, Japan and South Korea

Program:

Energy Transition in East Asia: Challenges and Perspectives in Taiwan, Japan and South Korea	
Thursday, October 19 th , 2017 Room, 303, 3F, College of Social Sciences, National Taiwan University	
14:00-14:30	Registration
14:30-14:40	Chair's Opening Remarks Dr. Kuei-Tien CHOU Director, Risk Society and Policy Research Center, National Taiwan University; Director, Graduate Institute of National Development, National Taiwan University
14:40-16:10	<p>I Energy Transition in Japan: Risk Culture, Risk Framing and Nuclear Energy Dispute in Japan before and after the Fukushima Nuclear Accident Speaker: Dr. Koichi HASEGAWA (20 min) Professor, Department of Sociology, Graduate School of Arts and Letters, Tohoku University, Japan</p> <p>II Energy Transition in South Korea: Ecological Democracy Perspective Speaker: Dr. Dowan KU (20 min) Director, Environment and Society Research Institute, South Korea</p> <p>III Challenges and Perspectives on Energy Transition in South Korea Speaker: Dr. Sun-Jin YUN (20 min) Professor, Graduate School of Environmental Studies, Seoul National University, South Korea</p> <p style="text-align: center;">Discussants:</p> <p>1. Dr. Tze-Luen LIN Associate Professor, Department of Political Science, National Taiwan University</p> <p>2. Dr. Shu-Fen KAO Assistant Professor, Department of Sociology, Fo Guang University</p>
16:10-16:20	Break
16:20-17:20	Discussion & QA

Report Abstract

1. Energy Transition in Japan: Risk Culture, Risk Framing and Nuclear Energy Dispute in Japan before and after the Fukushima Nuclear Accident

Koichi HASEGAWA

Professor, Department of Sociology, Graduate School of Arts and Letters, Tohoku University, Japan

The 2011 Fukushima nuclear accident revealed the failure of Japan's energy policy and energy supply system including risk culture and risk framing, a chain of underestimations of possibilities of failures and accidents, no defense against tsunamis and the station blackout, the narrow evacuation zone, and ineffectiveness of safety regulations. The accident has clearly shown that there is no absolute safety and nuclear risks remain very high. The majority of people came to support decreasing of the plant and regard the central government unreliable. Under the new FIT system, solar PV has tremendously increased since 2012. We find a lot of local projects to promote renewable energy among the whole nation, especially in Fukushima area. Citizens' protests became drastically frequent. The focusing points of the energy dispute were shifted from risk of electricity shortage to risks of severe accidents in a quake-prone country, financial risk, the issues of handling spent nuclear fuel and potential nuclear deterrent. However, Japan did not yet succeed to find the effective political route of energy transition to a denuclearization. Why on this energy transition, are we behind Taiwan and South Korea? Why have the Japanese conservative wing and Ministry of Economy, Trade and Industry neglected social learning of energy transition? Growing political influences of environmental NGOs and post-nuclear groups is still tough challenge due to the limits of organizational backgrounds, weak social watchdogs and the narrow political opportunity structure. How anti-nuclear movements should be organized toward new directions, what the next step should be, and who should be their political partners? These are still unclear. Upheavals of activism in 2011 and 2012 had failed to bring the victory of national elections. Under the political backlash led by ethno-centrism and populism, the function of 'nuclear village' and the nuclear budget, limit of courts are still standing as large barriers to the energy transition.

2. Energy Transition in South Korea: Ecological Democracy Perspective

Dowan KU

Director, Environment and Society Research Institute, South Korea

Energy transition to ecologically sustainable and socially just energy system is the new imperative of the world at risk. The structural challenge to this transition is developmentalism. Developmentalism can be defined as the practices and discourses in which nation states initiate and intervene capitalist market economy with strong industrial policies such as regulation and planning. Ecological democracy can be defined as ‘the political culture and practice in which the rights of social minorities, future generations, and non-human beings can be deliberated and realized in the open and participatory public sphere and policy process.’ Developmentalism in East Asia is the basis of energy system of petroleum and nuclear power. Developmentalism can be categorized to authoritarian and democratic.

Though the polity of South Korea was democratized after 1987, developmentalism was sustained in ‘the democratic government’ (1998-2007). Lee Myung-bak administration (2008-2012) advocated ‘Low Carbon Green Growth’ strategy, but it was not successful to implement climate change policy, but successful to enlarge and export nuclear power plants. The U-turn path starting from developmental authoritarianism to developmental democracy and returning to developmental authoritarianism can be found in South Korea energy regime. However, we can find the possibility of new eco-democratic path to phasing out nuclear power policy in South Korea.

What are the factors and process of eco-democratic energy transition? We can analyze 3 dimensions of energy transition: social movement; public sphere; political opportunity structure. Firstly, anti-nuclear movement developed since the late 1980s and energy transition movement also developed since the early 2000s. Though anti-nuclear movement was retreated in the late 2000s, it was newly proliferated to the citizens and housewives etc. after Fukushima disaster of 2011. Secondly, the safety of nuclear power was the main issue of mass media. Public awareness and concern about public health caused by nuclear radiation increased dramatically, specifically southeast area, that is Busan and Ulsan where more than 3 million populations were living around nuclear power plants. Thirdly, political regime was dramatically changed from authoritarian Park Geun-hye administration to Moon Jae-in administration by the people’s candle light revolution (2016-2017). New polity is open and positively inclusive to social movements and civil society. The distinctive difference of the former

democratic administration and Moon Jae-in administration is that the latter has will to implement phasing out nuclear policy, though very slow.

Political opportunity structure change is essential for energy transition, but not enough. When strong social movement for energy transition can create green public sphere, and sustainable and just energy alternative can be deliberated and accepted by people, legal and political power can create alternative hegemony, that is combination of consent and force.

3. Challenges and Perspectives on Energy Transition in South Korea

Sun-Jin YUN

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South Korea

South Korea stands at crossroads with regard to its energy transition. The current Moon Jae-in government, which was elected in May on a pledge to phase out coal-fired and nuclear power generation and bring renewable energies on a large scale, has taken first steps to implement its promises. For the energy transition to be implemented, several aspects are crucial for South Korea: First, with the energy sector being responsible for a large part of the Korean GHG emissions and due to its highly energy-intensive industry, policies that further emphasize demand-side management and strengthen the expansion of renewable energy are essential. Second, more policy engagement to support citizens' involvement to push an energy transition are required. This should be integrated in a major awareness raising approach, as of today, still many citizens in South Korea believe that nuclear power is inevitable to use to meet the high power demand although they are aware that it is not a safe solution. At present, the Moon government established the Public Engagement Committee in order to reflect lay citizens' opinion through Citizens' Jury and deliberative polls in determining construction of Shin-Kori 5 and 6, which were under construction with 29% of rate of process.

Further, there should be proper taxation on energy use, especially electricity. Although Koreans tend to call the electricity bill as "electricity taxes," Korea's electricity tariffs actually include only quasi-tax, called Electricity Industry Foundation Funds that account only for 3.7% of the electricity prices. In order to expand renewable energy, it is necessary to add environmental and social costs that occur from fossil- and nuclear-based energy generation into the electricity prices that should be paid on a regular basis by electricity consumers. One option the Korean government can take is to impose fuel taxes on electricity. Currently, the amount of the tax placed on bituminous coal is not high enough and there is still no tax on uranium. This situation is unfavorable for renewable energy and natural gas-fired power plants because their costs are higher than bituminous coal-fired and nuclear power ones.

In order for an energy transition to be possible, it is pivotal not to expand nuclear power plants anymore. In terms of nuclear power density (nuclear power installation capacity divided by national land area), South Korea ranks top first in the world. In addition, the nuclear risk of reactor-located areas is more intensive than in other

countries. There are 11 places with more (6%) than 6 reactors among 187 places where nuclear reactors are located in the world. In case of South Korea, however, all nuclear sites have more than six, which means nuclear power-relevant risks are more intense in South Korea. If Shin-Kori 5 and 6 are built, the Kori nuclear power plant is the most nuclear-dense area as a single area in the world, where total 10 reactors including already stopped Kori-1, the first and oldest reactor in Korea, will be located with 11,500MW.

Nuclear reactors in South Korea are aging. Except for Kori-1 already closed permanently, there will be 11 more reactors whose life time is completed before 2030. Thus, decommissioning will be a critical field in South Korea, especially because decommissioning technology has not been properly developed in the country. There are arguments to take decommissioning work as an opportunity to lead the international decommissioning market. The KHNP stated its will and plan to develop decommissioning technology development but there has been little investment in decommissioning technology but no experience in decommissioning. Furthermore, an agreement on the methods for disposing spent fuel has not been reached in Korea and the publicity on spent fuel disposal is inadequate. The on-site storage facility for spent fuel in Korea is expected to be saturated from 2019 onwards and thus more aggressive countermeasures must be arranged as soon as possible.

Recently, resistance from the pro-nuclear camp including labor union of the KHNP has been strengthened. It is required to create more jobs in the field of energy efficiency improvement and renewable energy and a smooth job transition must be ensured. The momentum of the conventional large-scale centralized electricity system is very strong because of long life-time of facilities, strong alliance and resistance of relevant stakeholders, and people's familiarity to that system.

The Moon government now needs to develop energy transition scenarios and a road map to achieve the pursued nuclear phase out and to start the huge transformation. It will be important to realize a good energy governance in which various stakeholders participate in the decision-making process. In particular, actors from civil society and local governments have to be allowed to play a role in energy decision-making. Previous central governments had monopolized energy decision-making power while excluding local governments. As the energy system develops more towards decentralization, the participation of local actors including local governments, local residents, and local NGOs, etc. will increase. The current Moon government recognizes this necessity. And last, Korea's on-going energy experiment needs to take global attention by presenting the ambitions and achievements of the Moon governance on the international stage, especially in the context of the Paris

Agreement, but also by enhancing the exchange with other pioneering energy transition countries.