

Final Report: Junior Research Stay at Peking University

Ph.D. Candidate, Dan Wu

Graduate School of East Asian Studies

Environmental Policy Research Center, Department of Political Science

Freie Universität Berlin

SS 2019, 01 July – 30 August 2019

### Regional Market Building in the Electric Power Sector in China's Jing-Jin-Ji Region

Thanks to the research funding by the University Alliance for Sustainability, I am privileged to have the opportunity to visit Peking University as a research student to study the ongoing market reforms in China's electric power sector. I decide to study this sector due to its important role in helping China transition to a low-carbon economy and in addressing air pollution and other environmental problems. China produces 45% of coal in the world and contributed to 28% of global CO<sub>2</sub> emissions in 2017. Around 45% of Chinese coal production is consumed by its power sector, and 65% of the country's electricity comes from coal. Improving the electric power sector's efficiency and environmental performance is key to fulfilling China's international commitment to emission reduction and fight against climate change. Developing regional wholesale power markets to facilitate the efficient exchange of power between regions is one of the major targets in the new round of market reforms that begun in late 2015.

During my research stay, I conducted some interviews with staff members from several large state-owned enterprises in the electric power sector, such as Shenhua Energy Group, China Energy Conservation and Environmental Protection Group, and Huaneng Power International. From these interviewee sources, I managed to collect first hand data on market operation and power trading models, and market trading rules and regulations.

I was also very fortunate to have contacts with researchers from the International Energy Research

Institute belonging to the International Cooperation Center of the National Development and Reform Commission, and China Academy of Social Sciences. I am especially grateful to Professor Lin Shuanglin, who kindly agreed to be my academic supervisor at Peking University and offered a lot of important insights into my research topic, and Professor Huan Qingzhi, who shared many of his inspirational thoughts and provided me with opportunities to exchange ideas with some of his students.

Besides my meetings with academics with expertise in energy research, I had the opportunity to meet with the research team led by Dr. Zeng Zhimin from China Southern University of Technology during their visit to Beijing. Although their research is not primarily focused on China's electric power sector, those young and energetic scholars are of great inspirations to me, and my interactions with them triggered my thoughts in many ways.

Meanwhile, it was a great pleasure to enjoy vast research materials available at the Peking University Library and the National Library of China. I managed to review the yearbooks of the State Grid Corporation and China Southern Power Grid to retrieve some useful data. I also finished reviewing a series of yearbooks of the electric power sector in Beijing, Tianjin and Hebei in the Jing-Jin-Ji region. Furthermore, I found useful information in a collection of books on history of the electric power sectors in provinces and municipalities in this region.

My research and fieldwork experience in Beijing helped me to observe and better understand the progress as well as challenges of the ongoing market reform in the electric power sector. Provincial actors are seen to play indispensable roles in the pluralization of China's highly fragmented policy process. Decentralization in policy-making is a major factor that enabled the market reform and transformation in China's electric power sector.

Finally, I would like to thank Katrin Schweigel and Nikola Tietze from FU Berlin, Chen Wei and staff members of the Office of International Relations at Peking University for their generous administrative support.