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Current situation of resource potential, development targets, regulations and conflicts of geothermal energy in Japan

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Japan is the third largest country in the world in terms of geothermal resource potentials investigated by the Agency for Natural Resources and Energy. However, installed capacity of geothermal power in Japan has been very limited even after the FIT (Feed-in Tariff) scheme for five renewable energy including geothermal power was adapted in 2012. Major three of the reasons which have pointed out so far are (1) cost problem including long development period and needed legal procedures, (2) related regulations such as the Nature Park Law, and (3) strong objections by local residents especially by the hot spring (ONSEN) owners and inns. Under such circumstance, we developed Japanese inventory consisting of resource potential, development targets, regulations and conflicts of geothermal energy in all 47 prefectures, since each prefecture can set original target to install new geothermal power or direct energy use. Our hypothesis is that there are some relationships between local targets, resource potentials and conflicts which occur in the area, reflecting different digging regulation of each prefectures. The scheme of regulation for digging new hot spring well to start geothermal power has basically been set by national hot spring (ONSEN) law, but each prefecture governor can create original regulations according to local situation. Also, we are investigating whether national target to install renewable energy by 2030 will be achieved or not based on our inventory, because new power plant must be installed in one of the 47 prefectures. Furthermore, we clarified the status quo of local program to support new geothermal energy development in some prefectures through interviewing surveys that have been conducted so far. Local program could be classified by four administrative resources, (1) financial resources, (2) legal resources, (3) human and organizational resources, and (4) information.

Biography

Naoki Masuhara has been Project Researcher at Research Institute for Humanity and Nature (RIHN) from 2013, participating in the five-year research project, entitled "Human-Environmental Security in Asia-Pacific Ring of Fire: Water-Energy-Food Nexus" RIHN, Kyoto, Japan. He received his PhD in Engineering from Osaka University (2017). He was Secretary Staff of the Coalition of Local Governments for Environmental Initiatives (COLGEI, 1999-2013), Researcher of the Policy Institute of COLGEI (2000-2013), Guest Researcher at Waseda University, Hosei University (2007) and Osaka University (2014). His major fields of interests are local environment administration and energy policy.

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