The Geothermal Opportunity in Taiwan

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Currently, the installed capacity and gross electricity productions of power structures in Taiwan are 40.79 GW and 219.2 billion kWh, respectively. Among them, the nuclear power plants occupy 12.61% and 18.61 % for installation and production, respectively. There are three nuclear power plants, named No. 1, 2 & 3, in operations and one (No. 4) is under construction, but is stopped and sealed now in Taiwan. Furthermore, the life-span of 40-year operation for those three power plants will be close-at hand and retire in 2018-2019, 2021-2023 and 2024-2025, respectively. Therefore, to find alternative energy sources, especially on the clean, renewable and sustainable ones for generating electricity are emergent and important for Taiwan’ s government in next few years. Among various energy sources, geothermal energy can be as base-load electricity and offers an opportunity for a country with naturally free-resource and less dependence on fossil fuel. However, development of geothermal energy has been stopped for more than 30 years, and currently no working geothermal power plant existed in Taiwan. To jump-start the geothermal exploitation rather than solely rely on knowledge, we also need to introduce the techniques from outside of this country. It provides you not only to know what the geothermal situation is, but also to find the collaborating and business opportunities in Taiwan.
Located in the west Pacific Rim of Fire, Taiwan possesses rich geothermal resources due to volcanic activities and rapid uplifting of plate collision. Based on available data prior to 1980, Taiwan may have about 1 GWe of potential shallow geothermal energy. A 3-MW pilot power plant, therefore, was constructed in 1981 and terminated in 1993 in the Chingshui geothermal field of Ilan, northeastern Taiwan. Recently, one of the National Science & Technology Program (NSTP) projects has been conducting research and reevaluating the island-wide deep geothermal energy. We found that the geothermal resource in Taiwan may be as high as 33.6 GWe of exploitable geothermal energy. There are no any commercial geothermal power plants until now in Taiwan, although the potential is great. However, geothermal energy has been listed as one of major tasks of National Energy Program, Phase II (NEP-II) in Taiwan. We will conduct more detailed geothermal energy surveys on some proposed hot sites in a few years.

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