Seongokn Lee et al., Expert Opin Environ Biol 2017, 6:4
DOI: 10.4172/2325-9655-C1-018

Relative competitive analysis of new and renewables integrating the present patent status: In case of PV, fuel cell and wind power

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Global energy environment has been changing due to major issues including climate change, sustainable development and green growth. The advanced economies the U.S, Japan and Germany implemented a strategic R&D and dissemination of new and renewables for leading future energy markets since the early 2000. Specifically, Korean government fast follower, has focused on enhancing a strategic energy technology development with limited R&D budget even though the ratio of R&D budget over GDP is the highest status comparing with other countries. In case of Korea, the strategic energy technology development is equivalent to substitute the effect of natural resource reduction because 97% of the consumed energy in Korea is imported from overseas. Korean economic status is easily affected by the fluctuation of oil price changes due to her poor natural resource status. Now it has been increasing the interest of developing and disseminating new and renewables for sustainable development and low carbon green growth of social system. In this research, we focus on analyzing the relative competiveness of patent status in case of 3 major new and renewables accounting for PV, FC and wind power. This research narrowed down short-list of government sponsored research institutes (GSRI) and major research oriented universities. Patent indicator is one of key factors as decision makers and policy makers for implementing a strategic energy technology development plan and portfolio management for leading the current and future energy technology market during short-/mid-/long-term period. GSRI and major universities have tried to produce R&D outcomes instead of quantitative outputs supported by government and private R&D funds. Decision makers and policy makers of GSRI have been enhancing R&D productivity toward reaching world-class research institutes from qualitative and quantitative aspects. This research carried out for analyzing the relative quantitative competitive analysis of GSRI and major universities in Korea related to 3 major new and renewables for recent 5 years from 2008 to 2013. This research carried out the quantity of registered domestic and international patents related to 3 major new and renewable energy technologies. The research results will provide the fundamental decision making data for energy policy makers when the future R&D strategy in energy technology R&D sector is needed to implement considering the relative status of GSRI.

Biography

Seongkon Lee, Principal Researcher has his expertise in the implementation of national energy policy since 2005. He was the former Chief of R&D strategy center, Korea Institute of Energy Research from 2013 to 2015. He is the Board Member of Directors related to The Korea Contents Association (KOCON.a), Korean Society of New and Renewable Energy (KSNRE), Korea Technology Innovation Society and Korea Entrepreneurship Society. He is the Scientific Panel Member of International Society for Professional Innovation Management (ISPIM), England. He was the Visiting Research Fellow of Technology Management for Innovation, The University of Tokyo from 2010 to 2013. He was the Visiting Scholar of Harvard Kennedy School, Harvard University from Aug. 2015 to Aug. 2016. He obtained PhD in Technology Management for Innovation, The University of Tokyo, Japan.

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