

인도네시아 신재생 에너지 잠재력 및 보급 정책

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Renewable Energy Potentials and Promotion Policies in Indonesia

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For Indonesia, sustainable energy supply is an important factor to preserve the stable economic growth. One important strategy is development of renewable energy, which has not been fully exploited yet.

The paper examines the potency of renewable energy in Indonesia. Currently, biomass composes 23% of total primary energy supply, while geothermal and hydropower has a combined share of 3%. But according to the overall potency of renewable energy, hydropower is found to have the highest available resource of 76 GW, followed by biomass and geothermal by 49.81 GW and 28.53 GW, respectively. Although the solar radiation is only at modest level (4.80 kWh/m²/day), the tropical all year sunlight can boost the competitiveness of solar photovoltaic and thermal application. As for wind energy, the average speed of 3-6 m/s requires the development of low speed wind turbine. The examination of electricity and petroleum product prices through international comparison for non-OECD countries shows fifth lowest price level for both of petroleum products and electricity for industrial use. As for household electricity price, Indonesia is placed the second among all the countries compared. The energy subsidy and price structure are examined in detail because it could be a source of hindrance to renewable energy promotion.

The examination of renewable energy potency in this study could provide insights about recent development of renewable energy in Indonesia. As an outcome of policy examination, the price comparison analysis suggests Indonesia to reduce or even remove the energy subsidies in the long run. These findings can be utilized to formulate effective policies for renewable energy promotion.

Key words : Renewable Energy(신재생에너지), Sustainability(지속가능성), Energy Subsidy(에너지 보조금), Promotion Policy(보급 정책)

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중국의 석탄 에너지 시장과 IGCC

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China's Fossil Fuel Market and IGCC

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With current real economic growth of more than 10% per year, the Chinese energy consumption is rapidly increasing. Coal supply consists of the vast majority of China's total energy consumption requirements in 2008. China, the largest energy consumer, is expected to be heavily dependent on coal for future power generation, too (IEA,2009). A growing concern on global warming, on the other hand, drives Chinese government to declare her commitment to the reduction of CO₂ emission by 2020.

In this paper, China's energy market is examined for the current and future primary energy mix. Coal is found to be the biggest part accounting for 68.7% of total primary energy consumption while coal-fired power accounts for over 80% of the total power generation. The importance of Clean Coal Technology is being discussed based on the findings of the importance of coal in China's economy and its sustainable development. Among the technologies involved, a brief investigation of IGCC(Integrated Gasification Combined Cycle) technology with a review on current IGCC projects in China are provided from the perspective of environmental benefits. Studies on regional Chinese power market is also conducted. It is found that the regulated power tariff in electricity system makes the power suppliers suffer from financial loss and changes in the electricity price system is under serious consideration by Chinese government.

Even though Chinese power market system causes difficulties of commercialization for IGCC technology, the potential benefits will be high due to China's huge requirements of power generating capacity and its heavy reliance on coal if the electricity price system can be changed smoothly.

Key words : China, IGCC, coal, power generation

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