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## Evaluating the benefits for the policy instruments of green energy technology

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Developing green energy technologies has been the strategy taken around the world against climate changes and GHG reduction task. The international institutes and governments thus plan and design related policies and strategies for facing possible obstacles to help green energy technologies successfully develop. The policy instruments can be roughly categorized into three parts, namely (1) setting the target of renewable energy development, (2) developing regulations such as FiT payment, and (3) fiscal incentives. In order to successfully develop green energy development, the Taiwanese government is therefore committed that the generating capacity of renewable energy should reach 20% of gross electricity generation. Furthermore, it also proposes the policies such as the total quantity control, rational feed-in tariff (FiT) rate, subsidies & incentives for demonstration, renewable energy fund, and so on. This aims to facilitate the renewable energy while reaching the reduction goal. Among these strategies, R&D and FiT mechanism are two quite effective ways. The Taiwanese government thus not only keeps increasing the R&D investment but reviews and revises FiT rate regularly per year. Nevertheless, it might cause a fiscal burden for governments while fostering renewable energy. Hence, a proper distribution of funding between these two strategies (i.e. R&D investment and FiT rate) is significantly important. Thus, this paper will explore that if there is a financial income (i.e. energy tax) while this income will be applied to subsidize the strategies such as FiT rate and investing in R&D, how the extent of the impact on the investment distribution is. This aims to clarify the benefits of various technologies with different policy instruments. Further, it will also evaluate the effectiveness for power sector under each policy scenario. The effectiveness contain the total cost for power sector, the carbon emission, and so on.

### Biography

Cheng-Hung Chen got a Master's degree in Public Finance in National Cheng-Chi University and a PhD degree in Economics in National Taiwan University with two major fields in public economics and international finance. He is an associate Research fellow at Taiwan Research Institute since 2015 and focus on the resources and environment issues, that include energy economics, water resources policies, GHG reduction policies, GHG reduction actions in transportation sector.

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