

Harmonizing policies for bioenergy and offshore wind power development: The case of Taiwan

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Abstract:

Feed-in-tariff (FIT) is the most popular instrument adopted in many countries for developing renewable energy. Surprisingly, the recent practices in Taiwan received harsh criticism and controversy internationally as well as domestically. The key lies in the fact that the authority announced last year (2018) two different rates for the offshore windpower within six months, NT\$5.8 per kwh first and NT\$2.225-2.548 later. Under the pressure from both the pro and con, the authority becomes extremely conservative in making the new rate of 2019, leading to unexpected political chaos and policy failure. Interestingly, the policies designed for developing biodiesel in Taiwan was terminated in 2014, six years after the national development targets claimed and B1 blended mandatorily, for other reasons. The questions are: Firstly, whether or not there is any room to develop biofuels and bioenergy in the near future, given the government is devoting to wind and solar powers at any cost? Secondly, will the enthusiastic development of wind and solar powers constitute a barrier to the development of bioenergy? How could the policy instruments be integrated and harmonized to assure sustainability?

This paper provides a critical review of the institutional mechanisms adopted by and the theoretical rationales offered to the authorities. The motivations of the government's efforts to develop renewables are analyzed and effectiveness evaluated using a framework that incorporates simultaneously the uncertainty of price and productivity and such policy instruments as emission trading, renewable electricity certificate (REC) and FIT.

At least ten reasons are identified that could explain why the new government is so enthusiastic in expanding the offshore windpower by offering unusually high FIT rates. It is found, unfortunately, that the development strategies are conflicting with each other and have fallen into a vicious circle. The rules of socially optimal integration among various policy instruments are presented accordingly.

As we are moving toward the new era of the 4th industrial revolution, there are lying ahead several obstacles to further development of bioenergy with some non-negligible. Absolutely they deserve greater attention and more research efforts.

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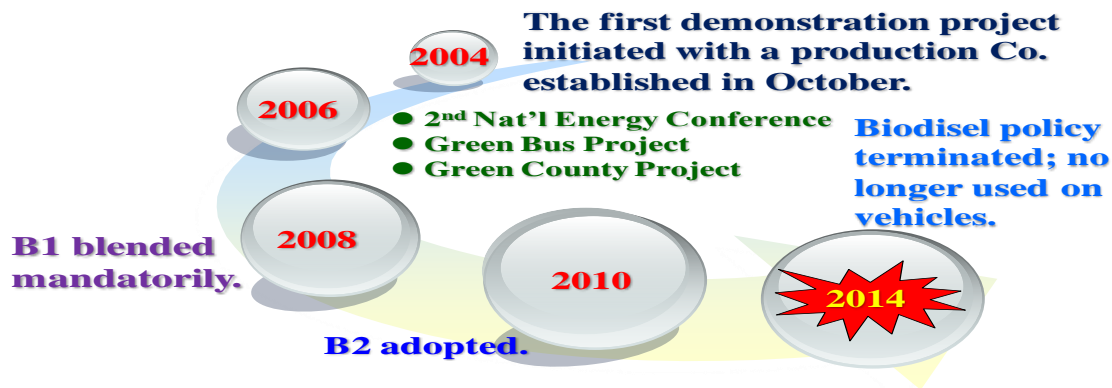


Figure: Development roadmap of biodiesel in Taiwan

Biography:

Dr. Huang received his Ph.D. from the Department of Applied Economics at University of Minnesota in 1986, and since then started his career at National Tsing Hua University (NTHU) in Taiwan. Immediately after his early retirement from NTHU in 2009, he joined Taiwan Research Institute as the Vice President and became the President of Taiwan Association of Environmental and Resource Economics. Now he is a contract professor at National Taipei University (NTPU), and a senior consultant to both the Tellus Climate Energy Solution and Taiwan Green Productivity Foundation.

His research is mainly on environmental and resource economics, and CGE modeling. He has numerous articles published in American Journal of Agricultural Economics, Environmental and Resource Economics, Applied Economics, etc. Recent works appear on Global Journal of Business Research, The Empirical Economics Letters, and International Journal of Energy Economics and Policy.