Study on Combination of Feed-in Tariff and Renewable Portfolio Standard for Renewable Electricity Diffusion

Park, Younghee

Key Word: Renewable energy, Renewable electricity, Feed-in Tariff, Renewable Portfolio Standard, Diffusion, Renewable Energy Policy, Policy Mix, Interaction

1. INTRODUCTION AND OBJECTIVE OF STUDY

Today, while concerns about climate change, energy security and recession are deepening renewable energy market has experienced so rapid growth. However because of the high cost compared to conventional energy resources, the diffusion of renewable electricity requires strong policy support. Discussions of the two main support schemes for Feed-in Tariff (FIT) and Renewable Portfolio Standard (RPS) usually take an either-or approach. However, some countries like Italy, the USA (California), United Kingdom and South Korea have recently introduced a combination of FIT and RPS. The purpose of this study is to clarify efficiency and effectiveness of the combination of FIT and RPS.

2. ANALYSIS AND OUTCOMES

This study conducted a comparative analysis of FIT and RPS. Table-1 shows that the two systems have contrasting characteristics, but they have mutually complementary features composing a pair of each other's strengths and weaknesses. Policy frameworks which combine different technology-specific support schemes as a function of technology maturity would be best suited to successfully implement the key policy design principle and foster the transition of renewable energy technologies towards mass-market integration. In the presence of regulatory uncertainty about the marginal costs of producing renewable electricity, economic efficiency of the two types of support systems—quantity-based market instruments and price-based market instruments will depend on the relative slopes of the marginal benefit and marginal cost curve. Thus, the combination of RPS and FIT is able to reduce efficiency loss and maximize social marginal benefit.

Table-1 Comparative analysis of FIT and RPS

	Feed-in Tariff (FIT)	Renewable Portfolio Standard (RPS)
strength	Investment risk reduction, participation in small size, activating local industry , job creation, energy diversity, Easy system management	Predictable diffusion targets, No subsidies, price is determined by market, technology innovation by competition, Adjustable market scale
weakness	difficulty in setting goals, Large financial burden, difficulty in determining price, inhibited competition, policy-dependent	limited participation, spreading specific energy, difficulty in system design, contributes little to the early phases of development

3. CONCLUSION

If the regulator has perfect information, both instruments have the same economic efficiency. But this assumption is impossible to realize. To reduce efficiency loss and achieve social goals, harmonization of the two systems would be good policy initiatives.