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The development of the renewable energy power industry under feed-in tariff and renewable portfolio standard: A case study of China's wind power industry

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1 **The development of the renewable energy power industry under**
2 **feed-in tariff and renewable portfolio standard: A case study of**
3 **China's wind power industry**

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9 **Abstract:** Among the regulatory policies, feed-in tariffs (FIT) and renewable
10 portfolio standards (RPS) are the most popular to promote the development of
11 renewable energy power industry. This paper uses system dynamics (SD) to establish
12 models of long-term development of the renewable energy power industry under FIT
13 and RPS schemes, and provides a case study of China's wind power industry by using
14 scenario analysis method. The model, on the one hand, not only clearly shows the
15 complex logical relationship between the factors but also reveals the process of
16 coordination between the two policy tools in the development of the renewable energy
17 power industry. On the other hand, it provides a reference for scholars to study similar
18 problems in different countries, thereby facilitating an understanding of the renewable
19 energy power's long-term sustainable development pattern under FIT and RPS
20 schemes, and helping to provide references for policy-making institutions. The results
21 show that the integrate implementation of FIT and RPS can promote long-term and
22 rapid development of China's wind power industry given the constraints and actions
23 of the mechanisms of RPS quota proportion, the tradable green certificates (TGC)
24 valid period, and fines. In addition, in the period of the construction of the TGC
25 market, RPS quota growth rate and fine have a no significant effect on industrial
26 development, however, with TGC market game becoming more and more fierce, both
27 of them have a significant positive impact on the long-term development of the

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