

Title: Consideration and practice of renewable energy trading in Chinese power market

In order to achieve the “3060” ambitious goal, installed capacity of renewable energy station are surely keeping fast increasing in coming years. The trend is a huge change, not only for the power grid operation, but for the electricity trading. Renewable energy trading mechanism design is never easy at the moment, and possible solutions are to be discussed. Firstly, demand of power consumers on green power is greatly influenced by the price, and premium due to the green energy inherent environmental benefit now impedes the trading. Secondly, for renewable energy power station participating in trading with power curve, contract compliance is difficult. Long-term power prediction is not reliable, and the real power can hardly match the power curve in the contract. This predicament is against the mechanism of electricity spot market. Thirdly, once the renewable energy station is involved in the trading, it is not easy to recover the investment. On one hand, spot market price is reversely related to the power of renewable energy, that the more a station is powerful, the less it can profit from the market. On the other hand, the renewable energy station should probably pay the ancillary service fee. Conventional power plants provides the services of frequency regulation and renewable energy power absorption, and renewable energy station should therefore share the cost. Experience from the practice of renewable energy trading mechanism organized by Beijing, North Hebei, and the renewable energy trading plan in five provinces making up the Southern Power Grid will be introduced.