

3rd World Congress and Expo on

GREEN ENERGY

September 28-29, 2017 Berlin, Germany

Optimal level of security of supply in the power sector with growing shares of fluctuating renewable energy

Aaron Praktiknjo

RWTH Aachen University, Germany

In many countries such as Germany, the expansion in renewable power capacities in only a short time frame has been impressive. Simultaneously, conventional plants such as nuclear power plants are being phased-out of the energy system. But in contrast to conventional power plants, most of the renewable generators only produce electricity if the weather conditions are right, e.g. the sun is shining or the wind is blowing. In general, there are deterministic and probabilistic methods to assess supply security. In the past, the four German transmission system operators (TSO) have used a deterministic approach (so-called forecast margin). However, with the increase of available data, we opt for a probabilistic approach to assess supply security due to its higher degree in detail of the results. Furthermore, when assessing supply security, the economic perspective also needs to be accounted for. Ideally, investments in supply security should only be made if the resulting benefits from an increase in supply security amounts at least to the investment outlay. With our research, we want to contribute to the economic assessment of supply security.

Biography

Aaron Praktiknjo has been an Assistant Professor of Energy Resource and Innovation Economics at RWTH Aachen University since 2015. Before joining RWTH Aachen, he was a Team Leader and Lecturer at the Institute for Energy Engineering, TU Berlin, and served as a Consultant for national and international agencies and companies. After studying Industrial and Civil Engineering, he completed a PhD on the topic energy supply security at the Chair of Energy Systems at TU Berlin, graduating in 2013 with highest honors. He has received awards for his research from the International Association for Energy Economics (IAEE) and the European Energy Exchange (EEX).

APraktiknjo@eonerc.rwth-aachen.de

Notes: