

## Will the Lights Stay on in the Future?

This hot topic was the theme of the Young Researchers' seminar held by the Finnish Association for Energy Economists (FAEE) in mid October, 2017. More and more electricity comes from variable renewables like solar and wind and though the annual electricity demand is leveling, the demand peaks are not. As affordable electricity storage is yet to happen balancing the electricity demand and supply becomes increasingly difficult.

The first two presentations in the seminar discussed possible solutions. Hannu Huuki (University of Oulu) presented a model quantifying the monetary savings from optimized use of electric hot water boilers. The annual savings per boiler varied from 13.5 € to 20 € and were smaller the larger the number of boilers being optimized. The system effect was positive.

Eveliina Seppälä (TSO Fingrid) discussed the pricing of operating reserves and balancing power. In ideal markets the reserve price should equal the value of lost load (VoLL). Today VoLL is much larger than market price for reserves. Adding a scarcity component to reserve prices could bridge the gap and enforce the price signal. Higher price in turn would bring more resources to the market.

The third presentation by Jaakko Jääskeläinen (Aalto University) addressed the risk of effect shortage (system failure) in Finland on a peak day using six scenarios. The stress factor extreme drought was combined with three alternative system developments and the simulations spanned from 2020 to 2030. In 2020 all the scenarios had enough capacity to meet the peak demand. In 2030, capacity in one of the scenarios fell short of demand. According to the research the threat of system failure is not imminent, but should not be ignored by the policy makers.

Lively panel discussion followed the presentations. Heli Antila (CTO, Fortum Oyj) and Asta Sihvonen-Punkka (Senior VP, Fingrid Oyj) joined the presenters in the panel and Roland Magnusson (GreenStream Network) chaired the panel. Not that the 30 strong audience left all the questions to Roland and all the answers to panelists. The discussion ranged from market design to policy measures and investment incentives. As to demand response, it was noted that today demand side already provides half of the balancing capacity in Finland for certain periods. The greatest concern turned out to be the future of CHP production.

Young Researcher' seminar is part of the FAEE's efforts to attract young members and it was now arranged a third time. We were happy to see familiar faces from earlier events and gratefully acknowledge IAEE's financial support for our program.

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