

Dr. Dirk Uwe Sauer - Abstract

Title (proposed by organisers): Electricity storage and generation support for standby, support for renewables generation

Title (proposed by author): Electricity storage and flexibilities for supporting renewable power generation

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About 80% renewable power generation in 2030 in Germany and high or higher penetration in many European countries will require significant actions for reliable and affordable operation of the power system. A combination of electricity, heat and gas storage systems accompanied by flexible loads in all areas of energy consumption will allow an efficient balancing of the fluctuating power generation especially from wind power and photovoltaic generators. A clear distinction can be made among "short term" storage, which supports balancing on a 24 hours basis and the "long term" storage, which must be available for periods of up to 3 weeks with low solar radiation and low wind speed at a time. The state of the art of the storage and flexibility technologies will be discussed as well as main technical requirements and problems regarding the market integration.