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Aspects of Energy Resilience of the Prosumers Based on Electricity and Heat Storage

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Abstract

Energy resilience shows an increasing interest among scholars and practitioners. The subject is mainly discussed for the electrical power grid and microgrids. Outages also affect end-users; however, a part of the prosumers start having local electrical storage, in addition to local PV production and can eventually provide local energy resilience. With the tendency to electrify heating by using e.g., heat pumps, with an efficient use of electricity - which can be as well green, analysis of simultaneous resilience for electricity and heat at prosumer side is a subject which need more attention. The paper is focusing on prosumer's electric and heat streams and studies aspects of resilience considering local electricity and heat storage to be used during grid outages.

Keywords: energy resilience, electrical storages, renewable energy, heat pumps

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