



SPECIAL SESSION XVII

Energy Communities

ORGANIZED AND CHAIRED BY

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The challenging decarbonization targets needed to mitigate climate change effects require a structural change in the entire energy supply chain, both at production and demand sides, as well as in the social awareness of environmental effects of energy decisions by citizens. To do those ends, the European Union has required (1) its member states to reach carbon neutrality by 2050 in the "Fit for 55" climate package in 2021, and (2) to promote aggregation of users in the form of Energy Communities, to enhance the involvement of citizens in energy matter as well as to foster investments in decentralized renewable production. Accommodating large fraction of renewable energy, in fact, requires large investments in infrastructures and storage, which are expensive and may be deferred or less necessary when innovative controls and smart techniques are put in place. Distributed generation has proven to reduce need for infrastructure developments and decentralized storage as well as demand response or demand-side management techniques have shown how contingencies may be reduced. Reaching sustainability requires, however, the social participation of citizens into energy matter, such as in the form of Energy Communities. This Special Session aims to disseminate advanced techniques and recent insights in the optimal design, planning and operation of aggregations of users and Energy Communities to reach a sustainable future for future generations. Topics of interest of this special session include, but are not limited to:

- **Renewable and Citizenship Energy Communities**
- **Optimal design, planning and operation**
- **Fair revenue sharing**
- **Business models for Energy Communities**
- **Standards for Energy Communities**
- **Socio-economic benefits of aggregation of consumers and prosumers**