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Extreme Events and Energy Providers: Science and Innovation

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Most socio-economic regulations related to the resilience to climate extremes, from infrastructure or network design to insurance premiums, are based on a present-day climate with an assumption of stationarity. Climate extremes (heat waves, cold spells, droughts, storms and wind stilling) affect in particular energy production, supply, demand and security in several ways. While national, European or international projects have generated vast amounts of climate projections for the 21st century, their practical use in long-term planning remains limited. Estimating probabilistic diagnostics of energy user relevant variables from those multi-model projections will help the energy sector to elaborate medium to long-term plans, and will allow the assessment of climate risks associated to those plans.

The project "Extreme Events for Energy Providers" (E3P) aims at filling a gap between climate science and its practical use in the energy sector and creating in turn favourable conditions for new business opportunities. The value chain ranges from addressing research questions directly related to energy-significant climate extremes to providing innovative tools of information and decision making (including methodologies, best practices and software) and climate science training for the energy sector, with a focus on extreme events. Those tools will integrate the scientific knowledge that is developed by scientific communities, and translate it into a usable probabilistic framework. The project will deliver projection tools assessing the probabilities of future energy-relevant climate extremes at a range of spatial scales varying from pan-European to local scales. The E3P project is funded by the Knowledge and Innovation Community (KIC Climate).

We will present the mechanisms of interactions between academic partners, SMEs and industrial partners for this project. Those mechanisms are elementary bricks of a climate service.