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Let's talk: incorporating stakeholder needs in climate-science based wind resource assessments

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The variable nature of wind power generation poses many challenges. The scientific community has addressed many of these challenges and made much progress in the recent years. These include, for example, quantifying resource variability, constraining future climate change impacts on wind energy, and suggesting robust system designs. Much of this research, however, has been academic in nature and lacks bi-directional interactions with stakeholders who make real world decisions. As an attempt to facilitate more exchange with industry partners, we present first results of a stakeholder workshop. The workshop theme is the role of climate in wind energy site assessments, including aspects related to climate variability and climate change. In addition to direct yield related parameters, such as capacity factors and their variability, we also plan to address relevant indirect effects that are less extensive researched, such as climate-induced changes in bat activity that trigger generation interruptions and blade icing. We report on the workshop design, highlight lessons learned and illustrate how the stakeholder feedback is used in shaping the precise research questions to be addressed in the course of the KliWiSt project [1]. KliWiSt is a German acronym that stands for the impact of climate change on wind energy site assessments. The general transdisciplinary approach can be adapted and used in other stakeholder-oriented research projects.

[1] https://www.climate-service-center.de/science/projects/detail/103308/index.php.en; https://www.iwes.fraunhofer.de/de/forschungsprojekte/aktuelle-projekte/kliwist.html