Technical implications and corresponding best practices in curtailment
Challenge submitted by nateco AG

SWISS WIND ENERGY
R&D NETWORK

CHALLENGE QUESTION

What are the technical implications and corresponding best practices in curtailment (shutting down turbines) to protect birds and bats?

GOAL

Develop a better understanding of how to best implement environmental measures to protect birds and bats, considering technical, management and energy loss aspects.

Technical aspects to consider include: 1) speed of shut-down necessary (mechanical consequences?), 2) frequency of shutdown, 3) nature of shutdown (whole wind farm, a number of turbines, or a single turbine?).

MOTIVATION

Bird and bat protection is a major issue in wind energy planning. In this case, shutting down the wind turbines is used as the main environmental measure. A better understanding of the aspects to be aware of in order to best implement these measures while considering the technical implications and constraints would be very useful.

There are different reasons to shut down turbines to protect these species, e.g. when a highly sensitive bird is detected by camera detection systems at close range, a migration flux of migratory birds or bats is detected from a greater distance, or when weather or other information indicates that it is a period when bats or birds are very active.

EXPECTED OUTCOMES

List of relevant technical consequences regarding the technical aspects and recommendations or list pro & cons relating to the aspects.

WHO THE CHALLENGE IS SUITABLE FOR

Environmental specialists, engineers, researchers, students, project planners, cantons, local communities, landowners, farmers, any other interest group.

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