

ADEME

Agence de l'Environnement
et de la Maîtrise de l'Énergie

**Club ADEME
International**



France, Germany,
Spain, Belgium,
Austria, Finland,
Iceland



Intervention time
2015-2020



Total cost
40k€ / wind turbine



Engaged workforce
10 people

Themac



Prestations provided

Technology Supplier / Equipment
Manufacturer - O&M



Biodiv-Wind

Biodiv-Wind

Reducing birds and bats collision risk on wind turbines

When a wind park is developed and operated, it has to maximize its renewable energy production while to respect environmental standards, such as biodiversity protection.

To take a concrete example on that topic: a wind turbine can rotate at a very high speed (e.g. 300km/h at blade tip). At that speed, rotor blades are hardly foreseeable and visible to birds and bats, which will enter the rotor area and endanger their lives.

Since 2016, European administrations force more and more wind turbines to be stopped during fixed time slots and time periods and so to prevent birds' and bats' lives on wind farms. However, and if these regulations protect avifauna, this fix clamping strongly impacts the energy production and endangers the economic viability of parks.

Thus, each project aims at:

- reducing the risk of collision in real time at every wind turbine level (instead of a fix clamping),
- consequently optimizing the electrical production so that the rotor will be regulated only in the presence of birds and/or bats around the wind turbine,
- answering to the administrative prescriptions and providing the proof that environmental obligations are duly fulfilled (environmental authorization, operation, etc.)

French and foreign partners

Qair
Boralex
Baywa r.e.
Tenergie

In the frame of each project, Biodiv-Wind will equip wind turbines that are at stake with its SafeWind technology. SafeWind is a real-time video detection system for birds and bats that, depending on the selected parameters:

- detects in real-time birds and bats within a defined area and depending on species around the wind turbine,
- records videos of bird/bat intrusions within the detection area,
- deters birds as soon as they enter the danger area, without habituation,
- regulates the wind turbines in real time so to prevent birds from a collision with the rotating blades,
- supplies the detection videos and activity reports of the flying fauna around the wind turbine.

Post-project results

Spin-offs for France

- French companies sell equipment and services abroad (minimum 80% of the budget);
- Cooperation and partnerships between companies, administrations, wind associations and French and European biodiversity protection associations are created;
- French and European regulations are progressively standardized with regards to wind industry and biodiversity (whereas initially built up for each country's region);
- Worldwide internationalization potential is increased with new projects (biodiversity protection, support to sustainable & renewable energy source and energy transition)
- French expertise, know-how and good practices are promoted within the field of biodiversity and wind energy;

Spin-offs for others European countries

- Biodiversity protection standards are implemented in the wind industry sector at national level and following the example of France;
- Endangered and migratory species are protected at a European level;
- Administrative prescriptions are standardized and lead to a more extended and expert development of bird/bat detection and anti-collision technologies, applicable in all fields of activity (onshore, offshore, etc.)
- Wind energy development pace is enhanced (new installations and onshore and offshore repowering) on windy areas that were up to now discarded due to the presence of endangered birds/bats species ;

With more than 130 members, the Club ADEME International assists the SMEs in its network in the development of innovative projects and international partnerships. The objective is to participate in the dissemination of French knowledge, by supporting the private and public sector in the ecological and energy transition sector in order to meet global environmental and climate challenges.

More information : www.clubinternational.ademe.fr

Environnemental Impact



- Environment protection (biodiversity is protected around the wind turbines)
- Active contribution to the energy transition (onshore and offshore wind energy production)



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