



**SafeLines4Birds**

**COLLABORATIVE PARTNERSHIPS**  
**FOR A RESILIENT, BIRD-FRIENDLY**  
**ELECTRICITY GRID**

# WHY IS BIRD PROTECTION AROUND THE ELECTRICITY GRID IMPORTANT

The success of the energy transition is strongly connected to the effective mitigation of potential environmental impacts of the necessary grid infrastructure. This approach is crucial for addressing the combined challenges of the climate change, energy demands, and biodiversity crises. Properly designed transmission and distribution grids are essential in protecting bird species by reducing mortality and thus, preserving population viability. These risks include bird collisions with overhead power lines on both transmission and distribution lines, as well as electrocution, particularly on medium-voltage grids.

## PREVENTING BIRD MORTALITY IS CRUCIAL IN ORDER TO

01

Ensure system security and prevent grid interruptions in the case of bird electrocutions

02

Comply with nature protection legislations to protect vulnerable bird species and tackle the biodiversity crisis

03

Reassure civil society that infrastructure is safe for sensitive bird populations, preventing opposition to new projects

This challenge requires expertise from engineering, ecology, policy, and beyond. Grid operators bring technological knowledge, while scientists, ecologists, and civil society experts offer insights into bird populations and ecosystems.

## THROUGH MEANINGFUL, MULTI-SECTORAL PARTNERSHIPS, THESE GROUPS CAN

- Enhance each other's expertise and share valuable knowledge
- Access additional resources for research initiatives
- Create new partnership opportunities
- Improve infrastructure planning and assess the effectiveness of mitigation measures
- Build trust, demonstrate a commitment to collaboration and send a positive message to external stakeholders

## SUCH PARTNERSHIPS ARE ALREADY IN PLACE

This brochure highlights successful collaborations that reconcile electricity grid deployment and operation with bird protection, thus effectively balancing the goals of the energy transition and biodiversity conservation.

# 01 MULTI-SECTORAL PARTNERSHIPS

Multi-sector collaborations among government, civil society, industry, and academia can provide solutions to effectively tackle the interconnected challenges of the biodiversity, energy, and climate crises. By aligning goals with the interests of all parties, grid operators can foster effective actions to reduce bird mortality and enhance their reputation in society.

## A NATIONAL AVIFAUNA COMMITTEE COMITÉ NATIONAL AVIFAUNE (CNA)

The CNA is a steering committee that unites France's leading nature protection associations, the Ligue pour la Protection des Oiseaux (LPO) and France Nature Environnement (FNE), with national transmission system operator (TSO) RTE and distribution system operator (DSO) Enedis. Its primary goals are to raise awareness and strengthen relationships between grid operators and non-governmental organisations (NGOs) to effectively prevent bird mortality along power lines. Due to its success, the committee now operates regionally within local offices of RTE, Enedis, and regional branches of the NGOs. In 2011, the CNA engaged RTE and Enedis in the National Action Plan for the Bonelli's eagle to reduce mortality from power lines, focusing on retrofitting pylons in high-risk areas.



## A NATIONAL TECHNICAL ADVISORY GROUP AVIFAUNA PROTOCOL

Set up in 2003, CTALEA - Technical Commission for the surveillance of Electrical Lines and Birds – is a national technical advisory Board that seeks to ensure the compatibility of Portugal's electricity distribution grid with bird conservation. Several protocols have coordinated the voluntary efforts between the Portuguese DSO (E-REDES); the national authority that supervises biodiversity conservation in Portugal (ICNF); and three Portuguese NGOs (SPEA, Quercus and LPN), proving to be a successful long-term cooperation model. Over the years, partners have created electrocution risk charts for threatened species of eagles and vultures, allowing E-REDES to implement and assess effective technologies to minimise risk for birds. The collaboration remains effective and is now extended under the Avifauna X Protocol until 2026.

## A EUROPEAN PLATFORM FOR COLLABORATION

### RENEWABLES GRID INITIATIVE (RGI)

RGI is a non-profit organisation that unites 28 NGOs and TSOs from across Europe to work together and promote fair, transparent, sustainable grid development. Founded in 2011, RGI provides a platform for discussion and collaboration between industry and civil society on a range of technical, social and environmental dimensions. Situated between industry and civil society, RGI is well-placed to mediate discussions between actors with different interests and find joint solutions.

Related to bird protection around the grid, RGI's activities include extensive awareness raising and communications campaigns; best practice curation and dissemination; advocacy activities at European level; and joint research projects.



# 02 COLLABORATION ON INNOVATION & RESEARCH

Grid operators can drive innovation by supporting research projects that combine knowledge of bird biology and grid technology. These collaborations optimise resources, facilitate trial-and-error learning, and expand the reach of results through increased participation. Co-funding from grid operators and EU programs, such as LIFE and Horizon, is often crucial for supporting long-term projects involving multiple partners.

## THE REN-BIOPOLIS PARTNERSHIP

### PORTUGAL

The partnership between REN, the Portuguese TSO, and BIOPOLIS/CIBIO Research Centre, is running since 2015, mainly funded by REN, with two main objectives:

- Developing research on the interactions between Transmission lines and biodiversity, e.g. focusing on the impacts on birds and assessing the effectiveness of mitigation measures, or related with nesting behaviour on pylons
- Provide scientific advisory and knowledge transfer to REN, mainly in the field of Environmental Impact Assessment (EIA), but also to other stakeholders, including at international level

### RESULTS INCLUDE, AMONG OTHERS

- 01 Publication of more than 20 scientific papers on bird - power line interactions
- 02 An update of the national "Guidelines for monitoring the impacts of transmission lines on birds and assess mitigation effectiveness"
- 03 Regular Scientific support to REN on EIA projects, mainly building of new lines





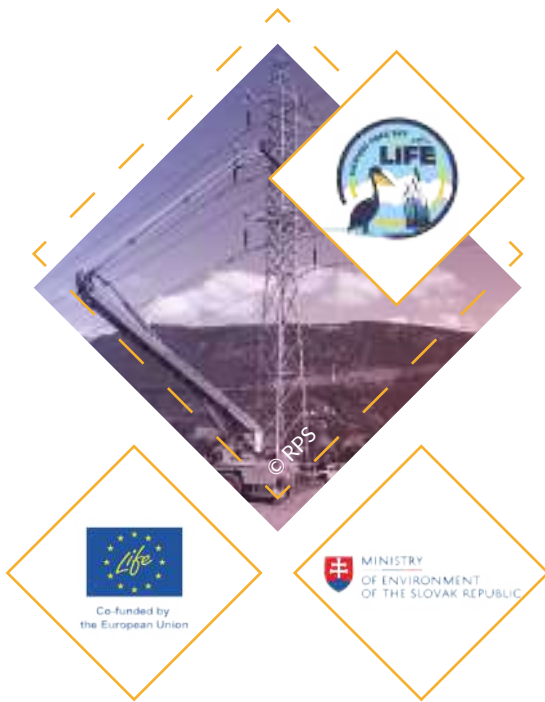
## INNOVATION ON PROTECTIVE MEASURES

### LIFE DANUBE FREE SKY

The LIFE Danube Free Sky project (2020-2026), co-funded by the EU LIFE Programme and the Ministry of Environment of the Slovak Republic, involves 15 partners from 7 countries, including grid operators, railway companies, and NGOs. The project aims to prevent threats to birds by implementing effective risk reduction solutions.

Grid operators highly benefit from shared knowledge on innovative protective measures, such as using drones for installing bird flight diverters (wire markers) and novel insulation devices.

Additionally, the project provides valuable data on power line monitoring and bird mortality, enabling targeted protection measures and efficient use of resources.



## TESTING & IMPLEMENTING NOVEL SOLUTIONS FOR THE FIRST TIME IN EUROPE

### LIFE SAFELINES4BIRDS

LIFE SafeLines4Birds (2023-2028), co-financed by the LIFE Programme, brings together 15 partners from 5 countries, including TSOs, DSOs, environmental NGOs, and scientific experts. The project aims to reduce mortality of 13 bird species in France, Portugal, and Belgium by mitigating negative impacts from power lines.

With a budget of over €14 million, the project has a strong focus on research and development, involving grid operators in testing innovative approaches to reduce bird collisions. This includes using daylight/thermal cameras to study the effect of wire marking on collision avoidance behavior in birds, and deploying the device tested for the first time in Europe: American UV Avian Collision Avoidance System (ACAS). Findings will be widely disseminated to enhance scientific understanding of mitigation measures.



# 03 JOINT DATA COLLECTION

Sharing technical data on bird presence and mortality among stakeholders enables targeted investments and better grid planning. By pooling information on bird migration, habitats, and mortality, all parties can efficiently identify high-risk areas and prioritise mitigation efforts. This data-driven approach reduces unnecessary costs and minimises wildlife-related outages, while open-source platforms encourage public participation and citizen science.

## CITIZEN PARTICIPATION IN DATA COLLECTION: THE NABU BIRD PORTAL



### GERMANY

The Bird Portal is a collaborative partnership, launched in 2017 between NABU (BirdLife Germany), 4 TSOs (50Hertz, Amprion, TenneT, TransnetBW), and 3 DSOs (Bayernwerk, Netze BW, Westnetz). The project aims to enhance knowledge on bird mortality around power lines. Through an interactive web portal, anyone can report dead birds found near power lines. This helps identify high-risk areas for birds, informing better planning and adequate implementation of mitigation measures.

Furthermore, this initiative fosters extensive collaboration between NGOs and grid operators, including working groups on bird-risk mitigation, exchange of latest research, public events, and communication efforts. The project is funded by participating grid operators and convened by the Renewables Grid Initiative (RGI).



## COLLABORATION ON A WEB APPLICATION FOR DATA COLLECTION IN FRANCE

### AVIFAUNE ET CÂBLES

“Avifaune et câbles” is a web application and bird mortality database created through the partnership between LPO, the National Park of Vanoise, RTE and Enedis. It supports the collection of data on bird mortality, helps to identify dangerous pylons, tracks mitigation measures, and monitors past retrofitting efforts. The app displays a colour-coded priority map showing mortality hotspots and the presence of protected species. It can be used in the field by grid operator employees, with GPS for accurate data entry.

This tool helps French grid operators apply targeted measures and plan new infrastructure more effectively to avoid sensitive areas for birds. The initiative is supported and funded by Enedis.



# 04 SENSITIVITY MAPPING

A bird sensitivity map compiles data on bird presence and important habitats to pinpoint ecologically sensitive areas. By overlaying these maps with grid route data, it is possible to identify where infrastructure could pose a risk to bird species. In this way, sensitivity maps created through collaborative initiatives allow grid operators to better plan new grid infrastructure away from sensitive areas for birds and prioritise high-impact areas for the implementation of mitigation measures.

## RISK MAPPING TO REDUCE ELECTROCUTION IN HUNGARY

### ACCESSIBLE SKY AGREEMENT

In 2008, the Accessible Sky Agreement was formed between MME BirdLife Hungary, Hungarian Ministry of Environment and Water, and 5 DSOs to study bird interactions with power lines. They developed risk maps to identify high-risk areas and implemented mitigation measures accordingly. In 2020, the project was expanded to assess Hungary's progress in bird protection, updating data on bird distribution, grid routes, pylon types, and retrofitting status. This partnership is pioneering as it evaluates the effectiveness of pylon retrofits and involves citizen science in recording bird carcasses near pylons.

Over the past years, BirdLife Hungary has collaborated with engineers and electricity companies to design bird-friendly pylons, providing valuable insights for creating a safer grid for birds.



## RISK MAPPING TO REDUCE COLLISION

### BELGIUM

In 2012, Belgian national TSO Elia collaborated with two NGOs Natagora and Natuurpunt to create a risk map quantifying bird collision risk across Belgium. Using extensive research and volunteer efforts, they identified collision-sensitive bird species and developed species-specific risk maps, integrated into a comprehensive 'risk scoring system'. This pioneering mapping effort provides crucial data for Elia to plan new power lines and implement mitigation measures effectively. A pilot project in Oudenaarde demonstrated significant reduction in avian fatalities, from 70 to 2 individuals, after installing bird flight diverters (wire markers) informed by these maps.

The maps, which are updated periodically, support Elia's risk assessments and support the execution of their sustainability programme 'ActNow' in planning mitigation actions.





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This brochure has shared some selected successful examples which demonstrate the benefits that come from collaborations between industry, civil society, and academia. We hope that readers find sources of inspiration which can help them to overcome challenges they face.

## WOULD YOU LIKE TO LEARN MORE?

**PLEASE GET IN TOUCH WITH**

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