

eurelectric

POWER PLANT^{2.0}

A guidebook to electrify in
harmony with nature

Eurelectric policy recommendations



POWER PLANT

PowerPlant 2.0 – Policy recommendations for protecting biodiversity through renewables and grid deployment

Renewable energy sources (RES) and grid infrastructure play a dual role in combating biodiversity loss. From a system perspective, their timely deployment is essential to mitigate climate change. In a renewables-based transition scenario, projected risks to biodiversity, natural systems and ecosystems are up to 75% lower than business as usual¹. At a project level, adopting a nature-inclusive approach in the design and deployment of renewables and related grid projects can yield positive contributions to biodiversity.

As we transition towards a renewables-dominated electricity system, developers and system operators are striving for a sustainable build-out. While this is being internalised in the corporate strategies, challenges persist in mainstreaming biodiversity integration practices. These include deployment delays, competitiveness pressure, lack of comparable biodiversity integration methodologies, knowledge gaps or even limited developer control over the land or water surface they operate in.

Ecology measures should be linked to the viability of the renewable energy sector and supporting infrastructure. Simply adding cost-driving requirements without considering the sector's financial health may hinder its growth, potentially leading to lower displacement of fossil power plants. However, ecology measures that enable the necessary infrastructure build-out to meet climate and energy targets add value for all parties.

Against this backdrop, Eurelectric's PowerPlant workstream has identified four lines of action for the next European mandate to mainstream biodiversity protection through the acceleration of the energy transition. Specifically, we advocate for:

1. A swift implementation of the 2030 climate and energy legislative framework, championing clean electricity deployment to reduce damage to nature and people caused by climate change

On a broader scale, a decarbonised electricity sector shall be recognised as a crucial ally for protecting biodiversity, as climate change is expected to become the primary driver putting pressure on species and ecosystems². The energy transition can be done in a way that avoids direct impacts and positively contributes to nature and people.

Unfortunately, reaching the needed renewables capacity is not a given. Despite the progress made, the current deployment is not sufficient. From today's 600 GW³, a 55% emissions reduction requires wind and solar to double⁴ by 2030. And we have less than six years to do so.

¹ WWF & BCG, 2023, Building A Nature-Positive Energy Transformation. Available [here](#).

² Pereira et al, 2024. Global trends and scenarios for terrestrial biodiversity and ecosystem services from 1900 to 2050. See [here](#).

³ ELDA, Eurelectric Data Assistant. Available [here](#).

⁴ EC's 2040 Targets Impact Assessment: 1292 GW of RES by 2030, 2298 GW by 2040 and 3027 GW by 2050. Available [here](#).

The main setbacks in our journey to 2030 include: (i) insufficient flexible power capacity; (ii) project bottlenecks due to long permitting processes, social opposition or supply chain issues; and (iii) regulatory uncertainty.

There is a clear need for speed and the next EU mandate must not delay or backpedal the necessary buildout. On the contrary, European policy must double down on the implementation of 2030 climate and energy legislation and devise complementary enablers for the integration of renewables. Of most importance this implies: (1) accelerating the rollout of grids and storage; (2) implementing the REPowerEU/Renewable Energy Directive (RED) III permitting rules; (3) securing a reliable supply chain; and (4) avoiding further interventions in the electricity market.

2. Rewards for projects that go beyond minimum requirements

The electricity sector is on a mission to provide decarbonised, affordable electricity to their consumers. Driving the electrification of our societies and economies still faces challenges in areas where there continues to be high dependency on fossil fuels, such as gas for domestic and commercial heating or fuels for transport, which makes the complexity of the mission even more acute.

Restoring and enhancing biodiversity may incur additional costs such as acquiring more land, compared to conventional projects. In our company case study collection, biodiversity related investments ranged from €25,000 to €280 million per project, typically directly proportional to the overall physical scale of the project.

It is therefore crucial to provide positive incentives to reward these projects. There are at least three tools that policymakers could use to promote biodiversity-integrated electricity infrastructure:

- i. **Earmarking Multiannual Financial Framework (MFF) funding for RES and grid biodiversity-integrated lighthouse projects:** Under the MFF, allocate €20 billion for integrated lighthouse projects and for scaling up practices that have proven to work in specific environments, with their implementation at regional and sea-basin level selected by a stakeholder advisory panel.
- ii. **Pragmatic ecological non-price criteria for state aid auctions:** Based on the recent Net-Zero Industry Act (NZIA) and the Climate, Energy and Environmental State Aid Guidelines (CEEAG), Member States are mandated to use non price criteria for renewable energy auctions and public procurement procedures. The forthcoming implementing act can facilitate this task with a non-exhaustive list of biodiversity factors that could be included in auctions.
Such list should be informed by ongoing sectoral initiatives. The factors shall be technology-specific, transparent, reasonable, comparable and measurable, and provide a certain level of consistency across Member States while considering diverse local environmental circumstances. Crucially, they shall not increase timescales and administrative requirements of applications. Due to the absence of an EU-wide measurement methodology, currently it would be more suitable to use them in the form of prequalification criteria, especially for auctions with numerous bids and smaller projects. This approach would mitigate delays and unintended consequences from more subjective evaluations.

The descriptions of the factors should not be too specific so to allow developers to select the most effective and innovative solution. Instead, the specific measures would likely be identified during the Environmental Impact Assessment. For example:

- Commitments to wildlife and ecosystems data collection and sharing: Rewarding developers to make their environmental survey data available to enhance collaboration with stakeholders and foster research and innovation. This should exclude sensitive data (e.g., nest locations of protected/annexed raptor species).
- Measures for active and passive species conservation and restoration: The criteria could also incentivise nature-inclusive designs to enhance ecological functioning, support suitable habitat restoration or creation and protect species. This could include optimised scour protection for foundations, spatial planning for bird flight paths, nature-based solutions like erosion reducing revetment planting.
- Multifunctional use of land and water surfaces: collaborating and coexisting with other economic sectors such as fisheries, agriculture, leading to biodiversity improvements.

iii. **Fiscal incentives for power purchasing agreement (PPA) offtakers**: A growing route-to-market for renewables are PPAs. We have seen how some PPA offtakers have helped determine and drive the ambition of the projects. To further promote this demand, fiscal discounts can be provided to those PPA offtakers with strong biodiversity strategies.

3. An EU framework for biodiversity integration across economic sectors

Lack of EU-wide harmonisation in biodiversity assessment approaches makes it difficult to make comparisons between projects, and for the developer to monitor and evaluate progress. At the same time, strict standardisation poses challenges as the results vary depending on the geography, type of project, feasibility of mitigation measures, type of ecosystems, national policy and planning conditions, as well as other socio-economic pressures like land use.

In this sense, the EU can navigate this challenge by taking the following steps:

i. **Promote the Mitigation Hierarchy by implementing the RED and adopting the Nature Restoration Law**

The Mitigation Hierarchy offers a sequential approach to avoid, minimise, restore and offset negative biodiversity impacts, and enhance where possible. Adherence to the Mitigation Hierarchy is the foundational step in any biodiversity integration strategy.

Power sector policy, planning and projects should adhere to and promote the Mitigation Hierarchy. In this sense the EU has already taken the lead in the RED to map renewable suitable areas to reach the renewables targets as well as acceleration sub-areas with low environmental risk⁵. We recommend Member States to swiftly implement these articles while avoiding permitting delays.

The currently pending EU Nature Restoration Law is recognised as a relevant milestone, too. The text provisionally agreed in 2023 and adopted by the European Parliament in February

⁵ See article 15.b and 15.c of the Renewable Energy Directive ([EU/2023/2413](#))

2024⁶ recognises the decarbonisation of the power sector as a key factor against biodiversity loss. We recommend Member States to adopt it.

ii. Harmonise biodiversity integration terminology and measurement approaches

- ✓ Consistent terminology: The language used to describe biodiversity and actions for biodiversity varies across different European countries, organisations, sectors and settings. There are even some discrepancies between EU initiatives. European developers and stakeholders would benefit from an EU repository of terminology for biodiversity integration in development projects. This would ensure clarity and consistency across European projects, policy frameworks and objectives.
- ✓ Project baselining: A common understanding of the baseline would improve project developers' ability to make informed decisions on biodiversity-integrated investments. We propose to define 'baseline' for a new project as the biodiversity that is there before development within a defined area. It shall be established by work done to collect and interpret information on the biodiversity feature occurring at a site, their current condition, trends and value before a project commences. Similarly, for repowering, grid refurbishment and decommissioning, the baseline represents the biodiversity inclusive of existing infrastructure within a defined area.
- ✓ Promote a pragmatic, harmonised process for biodiversity integration, including a toolbox of recognised qualitative and quantitative methods. The process should be harmonised, but also provide enough flexibility to innovate and adapt to the ecosystem specificities of each jurisdiction or geography (i.e., marine vs terrestrial). From a qualitative perspective, best practices on biodiversity management from the PowerPlant Guidebook can be highlighted. From a quantitative perspective, there are some well-established metrics that can be used in the European context. Appendix II of the PowerPlant Guidebook presents a non-exhaustive review of quantitative measurement tools that can be used. For terrestrial environments, policymakers could also take inspiration from the existing [International Financial Corporation \(IFC\) Performance Standard 6](#) or the emerging [International Standard ISO 17620](#). However, in the longer term, a bespoke process for Europe is recommended. This harmonised approach should be connected to a system of rewards as described in point 2 and its development should be informed by a stakeholder advisory group comprising representatives from industry, academia, community representatives, civil society and government from across Europe.

iii. Facilitate biodiversity impacts reporting

For the first time, European utilities are required to disclose impacts and dependencies on biodiversity under the European Sustainability Reporting Standards (ESRS) E4 that underpin the Corporate Sustainability Reporting Directive (CSRD). This is a significant exercise where utilities would benefit from further guidance. The principles of the PowerPlant Guidebook offer examples for industry to optimise biodiversity disclosures as part of their reporting processes.

⁶ See EU Parliament legislative positive resolution on the Nature Restoration Law [here](#)

4. Improving understanding of the interactions between ecosystems, renewables infrastructure and people

Understanding and incorporating the dynamic interactions between different ecosystems, species, existing land-use and natural processes into renewable and grid projects is complex. Available scientific data may lag behind the pace of required development, often with limited access or slow to be integrated into guidance. This means biodiversity may not be optimally surveyed, assessed, or monitored and impacts not fully understood or predicted. This is further complicated as the ecology sector has severe capacity constraints which are compounded by difficulties in recruiting and retaining enough people with the skills and experience that it needs.

Better mechanisms for data-sharing and knowledge transfer would benefit the whole industry and society, as there is a wealth of available biodiversity knowledge which is not currently being optimally utilised. There are many strategies the EU and Member States could leverage to improve these mechanisms. In our workstream we have identified the following:

- Support targeted research and increased EU funding to address knowledge gaps on the impacts of renewable power and associated electricity infrastructure on biodiversity and the short- and long-term effectiveness of mitigation measures.
- Launch a campaign to address ecology skills shortage in cooperation with industry, universities and training providers.
- Enhance access to and coordination of species, habitats and energy sources data. The EU is already actively advancing initiatives of access to spatial data, such as through the INSPIRE directive. Member States can contribute to enhancing data accessibility and quality by allocating resources towards central data repositories and biodiversity mapping tools and facilitating increased collaboration between Member States' competent authorities for biodiversity.
- Create an EU Competence Centre for a nature friendly energy transition. The EU could scale up the example of the well-established German "[Kompetenzzentrum Naturschutz und Energiewende](#)" (KNE). The independent EU centre could facilitate a nature-friendly transition to renewable energy, promoting objective discussions on environmental compatibility and preventing conflicts with nature, species and landscapes. Its activity could be based on three pillars: (i) inform and advise on the implementation of nature conservation best practices; (ii) offer expert mediation to help avoid and resolve conflicts when implementing the measures; and (iii) provide opportunities for expert exchanges.

Eurelectric pursues in all its activities the application of the following sustainable development values:

Economic Development

- Growth, added-value, efficiency

Environmental Leadership

- Commitment, innovation, pro-activeness

Social Responsibility

- Transparency, ethics, accountability



Union of the Electricity Industry - Eurelectric aisbl
Boulevard de l'Impératrice, 66 – bte 2 - 1000 Brussels, Belgium
Tel: + 32 2 515 10 00 - VAT: BE 0462 679 112 • www.eurelectric.org
EU Transparency Register number: [4271427696-87](https://ec.europa.eu/transparency/regexpert/?s=details&id=4271427696-87)