Leveraging the *Roadmap to Nature Positive: Foundations for the energy system*

Examples from the energy industry:

→ *Iberdrola S.A.*

World Business Council *for Sustainable Development*

Iberdrola

→ Iberdrola, Lavartera triloba species protected in Nuñez de Balboa photovoltaic Plant, Spain

General introduction

WBCSD and its member companies have now launched the ***Roadmap to Nature Positive: Examples from the energy industry***, five cases of industry businesses that are leveraging WBCSD's Roadmap to Nature Positive: Foundations for the energy system.

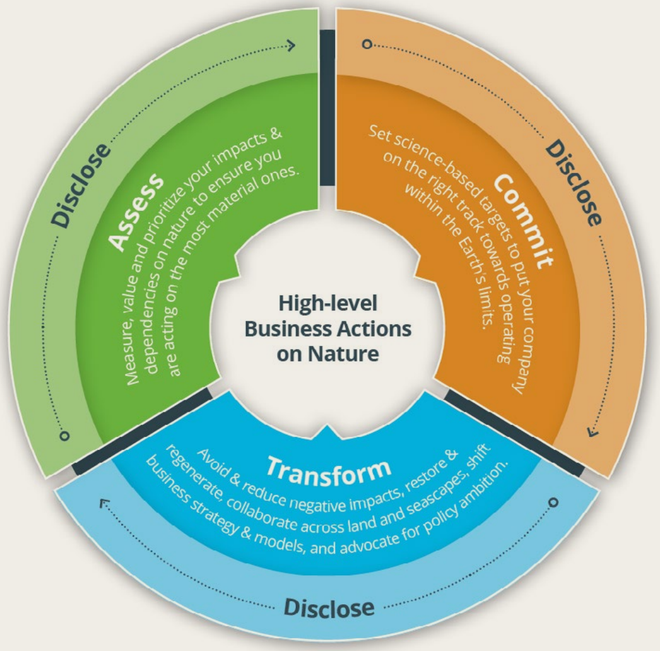
The ***Roadmap Foundations*** provides companies with a comprehensive step-by-step "how to" guide to taking credible, impactful nature action. The Roadmap follows the underlying logic of key frameworks including the **High-level Business Actions on Nature** to Assess, Commit, Transform and Disclose (ACT-D), the **Taskforce on Nature-related Financial Disclosure** (TNFD) **LEAP approach** (Locate, Evaluate, Assess, and Prepare) and the **Science Based Targets Network** (SBTN) **AR3T Action Framework**.

These **Roadmap examples** serve as **practical illustrations** that **bridge** the gap between theory and industry practice. Building upon the Roadmap Foundations, they aim to show how companies within the energy system are navigating their journey to nature action, offering valuable insights into the **particular and specific challenges** that businesses encounter on this journey.

As each organization confronts a **combination of unique and shared hurdles**, it is important to openly share these experiences to **foster collaboration** among peers and **support the development of effective solutions.**

*It is by making these learnings available, and collaborating with peers to develop solutions, that we can reach the **speed and scale needed** to achieve the shared goal of **halting and reversing nature loss by 2030.***

Figure 1: ACT-D framework, SBTN



Source: Business for Nature (2022). High-level Business Actions on Nature

Energy member: *Iberdrola S.A.*

Sector: Electricity utility

Value chain: Construction, operation and decommission of electricity and green energy generation, transmission and distribution networks and commercialization of electricity and green energy products and services

Company strategy & approach to nature positive

Decades ago, Iberdrola S.A. (Iberdrola) made a firm commitment to building an energy transition in harmony with nature and people, under the sign of competitiveness, resilience and sustainable development. This led the company to develop an ambitious transition plan marked by more renewable energies, more networks, more storage and smarter solutions. Conscious of the interplay between its aspirations and nature, **Iberdrola developed a Nature Positive Roadmap.**

Iberdrola's Nature Positive Roadmap aligns with WBCSD's *Roadmap to Nature Positive*. It addresses the five drivers of biodiversity loss identified by the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES) and comprises the company's 2030 Biodiversity Plan, Climate Action Plan and Circular Economy Plan.

- → **The Climate Action Plan** establishes a transition energy strategy aimed at achieving net-zero CO_2-equivalent emissions before 2040.
- → **The Biodiversity Plan** establishes mechanisms to achieve a net-positive impact on biodiversity by 2030.
- → **The Circular Economy Plan** promotes the sustainable use of resources by reducing the employment of raw materials or waste generation, increasing the life of assets and recycling materials from decommissioned infrastructure.

Nature frameworks & guidelines the company is considering in its nature strategy

Iberdrola's nature-positive vision is aligned with SBTN, TNFD and WBCSD's *Roadmap to Nature Positive: Foundations for the energy system*. Iberdrola is also working on complying with the International Sustainability Standards Board (ISSB).

Energy member: Iberdrola S.A.
continued

Rationale for the company to design and implement a nature strategy

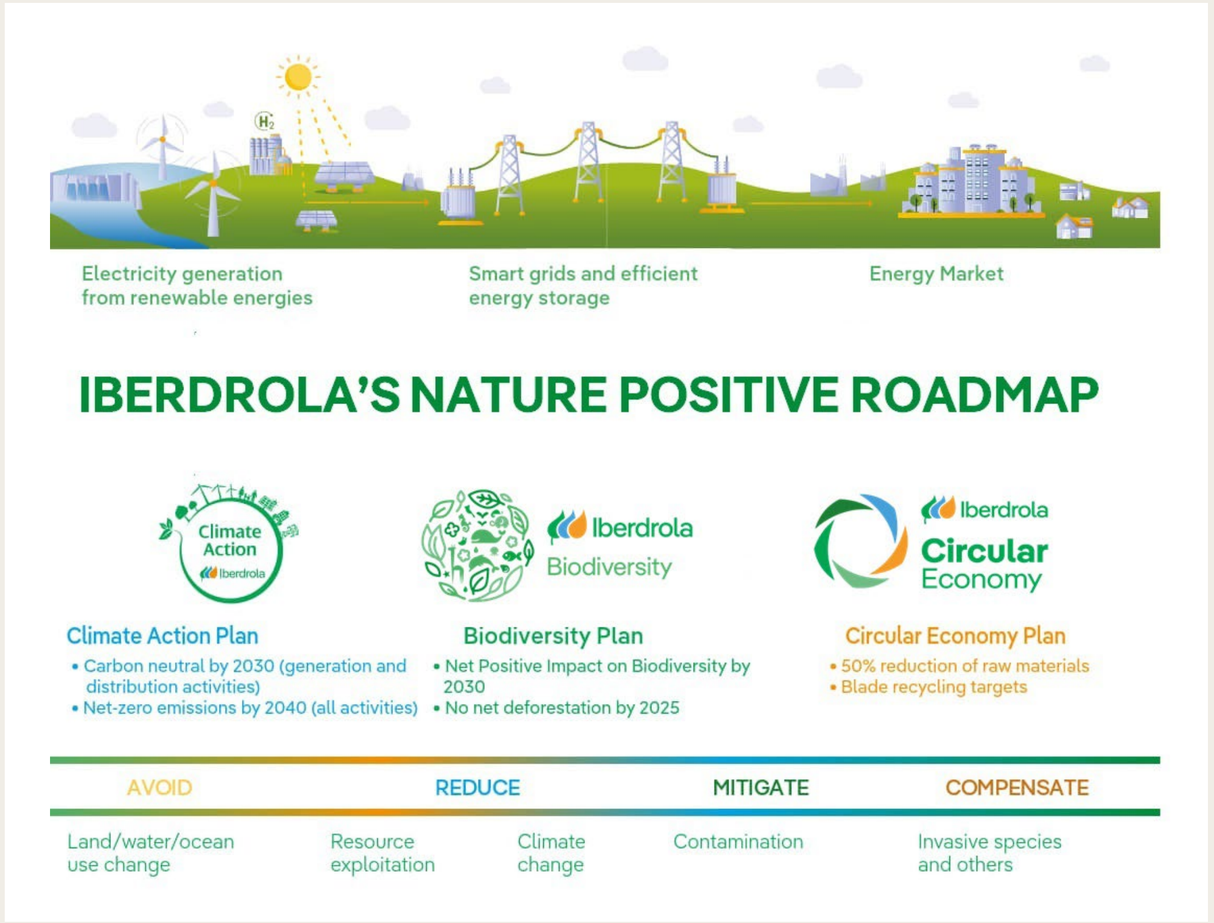
Three key principles are the basis for Iberdrola's nature and climate strategy and nature-positive vision:

→ **Commitment to environmental protection and the Sustainable Development Goals (SDGs):** Iberdrola embraces the United Nations SDGs as part of its business strategy and corporate governance system. Iberdrola contributes directly to SDGs 6, 7, 9, 13, 15, 17, and indirectly to the rest. Iberdrola is **committed** to the **Paris Agreement** and the **Kunming-Montreal Global Biodiversity Framework** (**GBF**) and established a nature roadmap to align its strategy and objectives with these global goals.

→ **Resilience of its Transition Plan:** the company is determined to develop a transition plan that is **resilient to short-, medium- and long-term risks.**

→ **Leadership and competitiveness in the business-nature space:** Iberdrola believes that approaching and **mitigating nature-related risks increases** a company's resilience by reducing unexpected long-term costs and augments **economic and market competitiveness** as it is a direct answer to stakeholder demands.

Figure 2: Iberdrola's Nature Positive Roadmap.
Source: Iberdrola



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Stage 1 in the Roadmap to Nature Positive – Assess

This section describes how the company is assessing dependencies, impacts, risks and opportunities (DIROs).

Iberdrola develops and operates energy infrastructure in multiple locations in Europe, the Americas and Oceania (see the **Iberdrola Group companies map**) and is expanding into Asia. The infrastructure includes wind, solar, hydropower, thermal, transmission and distribution networks and energy storage. The extent and variety of its operations has challenged Iberdrola in determining priorities when seeking to assess its nature-related dependencies, impacts, risks and opportunities (DIROs) and, ultimately, setting commitments.

Scoping, locating and assessing materiality was an iterative process, as the process would often reveal detailed information that required iteration.

Iberdrola identified material technologies, activities and locations relevant for further in-depth materiality assessment by:

→ **Mapping the current locations** of facilities, assets and activities and considering its business strategy of doubling its renewable capacity by 2030;

→ **Identifying material impacts and dependencies** from years of environmental impact assessments, monitoring programs, the company's corporate footprint and natural capital assessments;

→ **Identifying sensitive locations** with global datasets;

→ **Listing** the sensitive locations and material impacts and dependencies by **technology**.

Iberdrola's Climate Action Plan already delivered a Task Force on Climate-related Financial Disclosures (TCFD) assessment. Therefore, it did not consider the impact related to greenhouse gases in this materiality assessment. Iberdrola evaluated the supply chain impacts, like the impact generated upstream from the use of mineral and non-mineral resources, through the Corporate Environmental Footprint since it could not apply any specific locations.

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Assessing impacts & dependencies

To assess its impacts and dependencies on nature, Iberdrola performed a materiality impact and dependency analysis per technology following the approach indicated by the **SBTN** and **TNFD**. It used the **ENCORE** (Exploring Natural Capital Opportunities, Risks and Exposure) and **SBTN materiality** tools in combination with the results from the **Spanish Energy Sector Nature Capital Working Group** assessment. Internal experts reviewed the identified impacts and dependencies, classified according to ENCORE, to reflect the reality of the company's activities.

The analysis concluded that **Iberdrola's most material impacts were the ones produced by new project developments due to land-use change and by operating assets due to interactions with species and water.** Its material dependencies are from resource use and regulation services. To better determine which mitigating and reducing actions Iberdrola could undertake, the company mapped material locations.

Table 1: Iberdrola potential impact matrix per technology and impact driver

Drivers	Sub-driver	Technologies						
		Solar	Wind onshore	Wind offshore	Hydro	Combined Cycle and Cogeneration*	Nuclear	Networks
Land-/water-/sea-use change	Terrestrial ecosystem use	▲	▲		▲			▲
	Freshwater ecosystem use				▲			
	Marine ecosystem use			▲				
Resource exploitation	Water				●	■	■	
	Other: provision services	▲	▲	▲	▲			▲
Invasive species and others	Biological alterations		■	■	■			■
	Disturbances		▲	▲	▲	■	■	▲

Table 2: Iberdrola potential dependencies matrix per technology and impact driver

Function	Ecosystem services	Technologies						
		Solar	Wind onshore	Wind offshore	Hydro	Combined Cycle and Cogeneration*	Nuclear*	Networks
Direct physical inputs	Water supply				■	■	■	
	Wind resource		■	■				
	Solar radiation	■						
	Mineral and non mineral					■	■	
Enabling production proceses	Water flow regulation services				■	■	■	
	Water quality			■	■	■	■	
Protecting from disruption	Climate regulation	■	■	■	■	■	■	■
	Protection from storms and floods	■	■	■	■	■	■	■
	Mass stabilisation and erosion control	■	■	■	■	■	■	■

▲ New Developments ■ Operation & Maintenance ● Both

Very low | Low | Medium | High | Very High

Energy member: Iberdrola S.A.
continued

Locating interfaces with nature

Iberdrola mapped the locations of its facilities and **identified priority locations (at a facility level) by combining material activities and sensitive areas.** It identified sensitive locations by defining an area of influence and overlaying it with different global data sources, such as the World Database on Protected Areas (WDPA), Ecosystem Integrity Index (EII), IUCN Red List of threatened species and Water Stress Areas (WSA) as defined by the World Resources Institute Aqueduct Water Risk Atlas.

The company then assessed the priority facilities with the scale and scope of their dependencies and impacts on nature. **Companies can perform this quantitatively, using metrics, or qualitatively, through global datasets.** Iberdrola uses the following metrics based on the state of nature:

→ The **ecosystem metric** measures the change in the ecosystem's condition and extent before and after the implementation of the facility in hectares equivalent. It assesses the condition of the ecosystem through indicators like land use, vegetation cover, presence of protected species, etc. The ecosystem metric applies to new developments.

→ The **species index** is based on the number of specimens impacted and their protection category value. It is calculated for operating activities.

High priority locations are those whose impact metric for an ecosystem or species exceeds a defined threshold. These metrics allows Iberdrola to set action plans for ecosystem restauration and species conservation. Iberdrola consolidates the results from these two metrics in its Biodiversity Accounting Framework at facility, business, country and Group level.

When direct data is not available, the company identifies priority facilities **qualitatively through heat maps** using global datasets and estimated extent and likelihood.

→ Iberdrola, Lavartera triloba species protected in Nuñez de Balboa photovoltaic Plant (Spain)

Energy member: Iberdrola S.A.
continued

Risks & opportunities

Iberdrola assessed the material risks and opportunities based on the previously identified material dependencies and impacts following the TNFD recommendations.

1. The company transformed **material impacts and dependencies into risks and opportunities.**
2. It **reviewed and updated existing risk management control strategies.**
3. Iberdrola conducted **a risk assessment by assessing each risk's severity** (classified as high, medium and low), as determined by the intersection of their magnitude, likelihood and social impact. It then identified priority actions from the combination of the importance and level of control.

In the following **steps,** Iberdrola will select metrics to estimate the financial impact of each risk and opportunity at each location.

Table 3 provides an example of risks associated with the impact drivers.

Table 3: Iberdrola's risk table

Impact driver	Risk type	Risks associated
Changes to ecosystem condition or extension	Physical risks	Rejection of new developments approval or increased mitigation/compensation measures when locating the project in high value ecosystems
	Transition liability/ market risks	Increased nature protection policies or/and finance requirements
		Increased stakeholders demands
Changes to the supply of natural inputs	Physical risks	Reduction or interruption of production due to changes on resource availability
	Transition reputational risks	Conflicts with stakeholders when locating new developments on provisioning services areas
Disturbance factors and others	Physical risks	Reduction or interruption of production from impact on protected species Increased cost on mitigation/compensation measures
	Transition liability risks	Increased nature protection policies or/ and finance requirements
	Transition technology risks	Technology adaptation
	Market risks	Increased stakeholders demands

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continued

Stages 2 & 3 in the Roadmap to Nature Positive - Commit & Transform

This section illustrates how the company, after identifying the material DIROs, is implementing practical and concrete actions, setting its commitments and improving its nature-related strategy.

To address the identified risks and opportunities, in 2022 Iberdrola launched its "2030 Biodiversity Plan". The plan commits the company to having a net-positive impact on biodiversity by 2030. The **plan established the Biodiversity Accounting Framework** (BAF) to systematically record and consolidate negative and positive impacts on ecosystems and species to assess the performance related to the plan's goals and targets.

Bottom-up approach

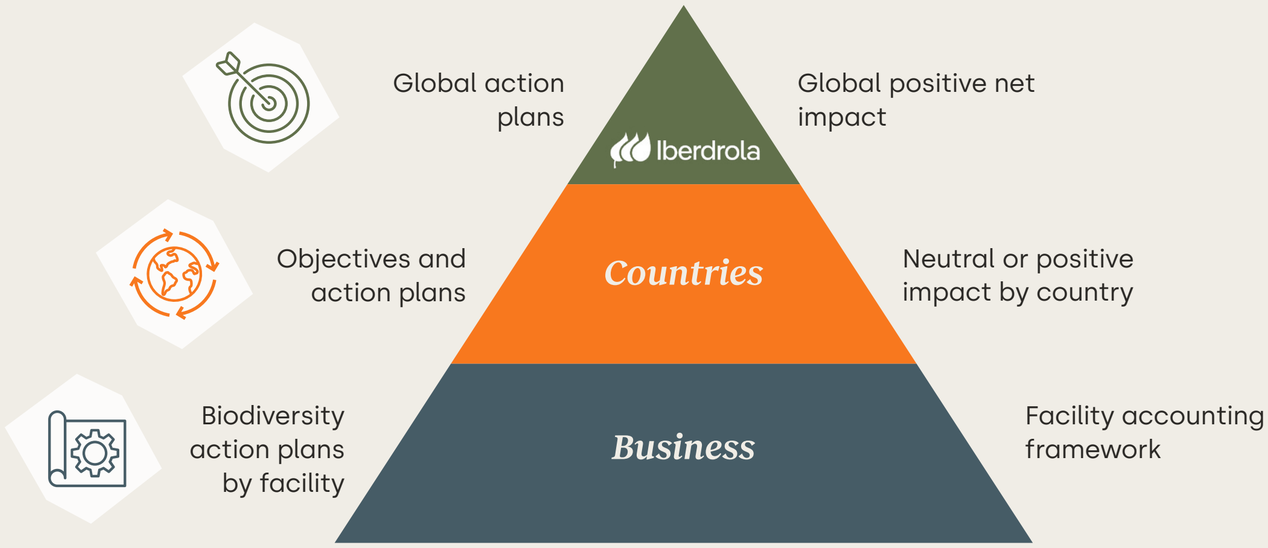
Iberdrola applies its commitments at the facility level through the BAF and consolidates them to deliver country-wide and group-wide net impact assessments. A facility is compliant with the plan once it assesses its impacts according to the BAF and develops a corresponding Biodiversity Action Plan (BAP) to achieve neutrality. The 2030 Biodiversity Plan sets intermediate compliance targets starting from 2025 for all new developments, then scales to priority operational facilities and, from 2030, to all other facilities.

Implementing the mitigation hierarchy

The application of the mitigation and conservation hierarchy through the life cycle of the projects is fundamental to Iberdrola's ability to **reduce and manage its nature-related risks.** Thus, Iberdrola's Nature Positive Roadmap and management tools translate into specific actions to decrease the nature-related impacts and dependencies of the company's business model. These plans align with the GBF.

As an example, the species index metric used to locate priority assets in the BAF applied to windfarms and networks in operation in Spain identifies target species for conservation that are common to both businesses. A Species Biodiversity Action Plan then focuses on those target species, implementing measures to mitigate the impact and promote conservation projects. The Focus box provides an example of a biodiversity action plan for new developments which target ecosystems.

Figure 3: Iberdrola's Biodiversity Plan pyramid



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Nuñez de Balboa Photovoltaic plant Biodiversity Action Plan (BAP)

The Nuñez de Balboa photovoltaic (PV) plant located in Extremadura (Spain) covers an area of nearly 900 hectares. Its capacity of 500 MW can supply energy to 250,000 homes. To avoid negative impacts and enhance biodiversity, Iberdrola applied its conservation mitigation hierarchy.

1. Avoid

Planning & construction: The PV plant is located outside protected areas, in an area that was previously degraded due to livestock overload and long-term farming.

2. Minimize & conserve

The company has explored opportunities for nature enhancement via a steady dialog with local stakeholders and starting with the design phase of the project.

→ It chose the location of the panels to protect and promote ecological corridors;

→ It fenced endemic flora species identified during the surveys, including endemic orchids, to create a flora reserve in collaboration with the local authorities;

3. Reduce

It controls the vegetation under the panels using sheep instead of pesticides.

4. Restore & regenerate

It has restored riparian habitats, created ponds for amphibia and offset custody of territory lands for steppe birds.

As a new development, **Iberdrola applied the ecosystem metric from its Biodiversity Accounting Framework.** It measures the condition and extension of the habitats before construction and estimates future conditions, taking into consideration implemented measures as many actions require five or more years to consolidate. The ecosystem metric shows that all these actions will indeed improve the condition of the ecosystem, as shown in the "after corrective measures" scenario analyzed in the ecosystem metric:

All the compensation and mitigation measures for the restoration area, including the management of the existing pond and the collaboration with beekeepers to install their beehives inside the plant, have improved the biodiversity at the photovoltaic plant.

Figure 4. Nunez de Balboa photovoltaic plant BAP

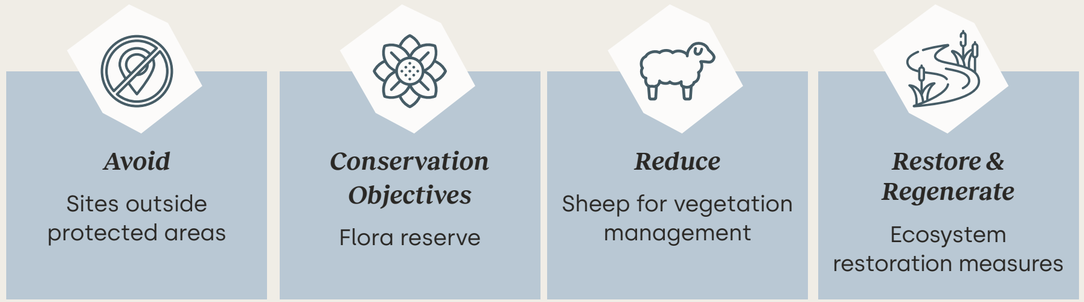


Table 4. Iberdrola ecosystem metric

Ecosystem type	Extent (ha)	Extent adjusted by condition **before construction** (ha. eq.)	Extent adjusted by condition **after corrective measures** (ha. eq.)	**Net balance** (ha. eq.)
Meso-Mediterranean Basophilic Holm Oak woodland	860	186	318	**+ 133**
Thermo-Mediterranean Riparian Galleries and Thickets	8	1,6	3,2	**+ 1,6**

Balance: Net positive impact on ecosystems

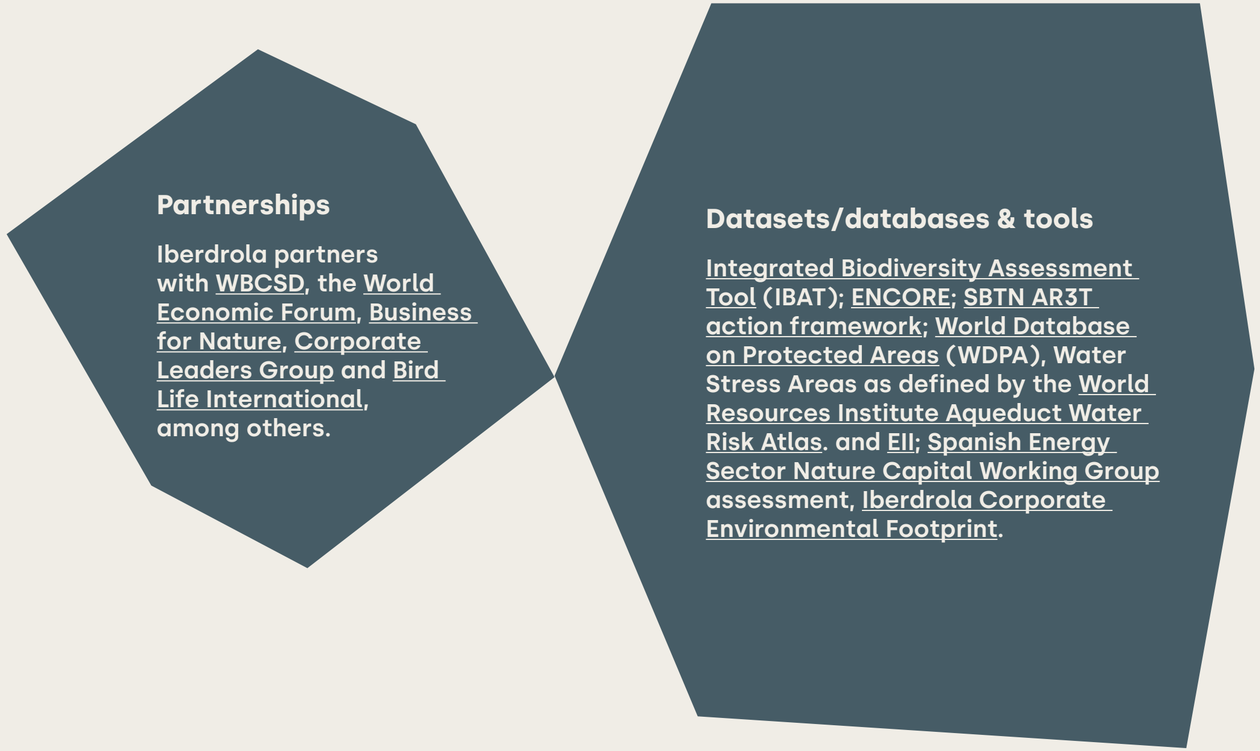
Energy member: Iberdrola S.A.
continued

Stage 4 in the Roadmap to Nature Positive – Disclose

This section illustrates how the company is currently disclosing and planning to disclose, including any relevant disclosure requirements it aligns with.

Iberdrola has been voluntarily publishing its *Sustainability Report* since 2004 and is now reporting according to mandatory standards in its *Non-Financial Information Report.* Iberdrola is reporting according to the Global Reporting Initiative (GRI), European Commission's Corporate Sustainability Reporting Directive (CSRD), European Sustainability Reporting Standards (ESRS), ISSB, TCFD and all the EU regulatory requirements.

The implementation of Iberdrola's Biodiversity strategy, as well as piloting the TNFD will help Iberdrola to comply with ESRS requirements.



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Key challenges & lessons learned

a. Difficulties in navigating the many emerging frameworks

Navigating the TNFD LEAP approach, SBTN AR3T action framework and all the other recommendations, guidance and tools is a challenge. Many tools, databases and frameworks are emerging and it is important to keep the focus on measuring objectives, as it can be confusing while piloting diverse methodologies to understand the expected outcomes.

WBCSD's *Roadmap to Nature Positive: Foundations for the energy system* helped the company turn concepts into real examples.

b. Lack of standardization

Another hurdle lies in the lack of standardization in calculating biodiversity conditions, particularly for a company operating in many geographies.

c. Data gaps

There are still gaps in public data sources for accurate information at the facility level. Measuring ecosystem conditions with global data is currently not an option with the data sources available, thus field data is still necessary.

Outcomes & benefits

The TNFD and WBCSD's *Roadmap to Nature Positive: Foundations* for the energy system supported the company in structuring many of its activities and provided guidance on integrating risk management and ecosystem management for all nature aspects. This integration of efforts allows companies like Iberdrola to review and improve measures taken and strengthen risk management to deliver on goals. Moreover, conducting the risk assessment from another point of view has **improved the company's global projects,** since it has clarified the nature needs of each business unit, enabling synergies in projects focused on nature conservation.

→ Iberdrola, Riparian ecosystem restoration at Nuñez de Balboa, Spain

Acknowledgements

Disclaimer

This document showcases a practical example of a corporate approach to building a nature strategy for the energy sector. The primary intention is to offer a real-life case illustrating how an industry player is undertaking their nature journey and implementing the WBCSD Roadmap to Nature Positive: Foundations for the energy system.

The example does not prescribe a one-size-fits-all approach. Each case depicted is specific to the context of the respective company and may not be directly applicable to all situations. Given the evolving nature of sustainability practices, it is advisable to continuously review and update strategies in line with emerging industry standards, regulatory changes and evolving best practices.

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The World Business Council for Sustainable Development (WBCSD) is a global community of over 220 of the world's leading businesses, representing a combined revenue of more than USD $8.5 trillion and 19 million employees. Together, we transform the systems we work in to limit the impact of the climate crisis, restore nature and tackle inequality.

We accelerate value chain transformation across key sectors and reshape the financial system to reward sustainable leadership and action through a lower cost of capital. Through the exchange of best practices, improving performance, accessing education, forming partnerships, and shaping the policy agenda, we drive progress in businesses and sharpen the accountability of their performance.

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