






Protection of biodiversity

[GRI 2-23, 3-3, 304-1, 304-2, 304-3, 304-4, G4-EU13]


The **conservation of biodiversity and ecosystems** is considered by Iren Group as an essential component of sustainable development in the implementation of its industrial activities as defined in the Sustainability Policy. For this reason, as well as entering into partnerships with Bodies, Institutions and Associations, the Group has developed a policy to ensure that the activities managed are compatible and sustainable for the environment and maintain its natural balance.

Biodiversity






Risks

- Natural/accidental event affecting minimum vital water flow mechanisms according to regulations
- Possible gaps in monitoring the biodiversity impact of plants, activities or services
- Accidental spills impacting biodiversity


Opportunities

- Improving impacts to counter biodiversity loss


Management methods

- Sustainability Policy
- Biodiversity Policy
- ERM system integrated with ESG topics
- Integrated Certified Management System (risk assessment, containment measures and third-party audits)
- Procedures: Environmental analysis
- Asset mapping for the assessment of impacts on biodiversity (ongoing)
- Plant equipment and monitoring systems to minimize possible impacts on biodiversity
- Contingency plans
- Collaboration with local protection agencies, institutions and associations

Protecting biodiversity from the continuous deterioration of natural habitats and threats to certain species is one of the main issues considered by the European Union in its environmental policy, oriented to the conservation of natural and semi-

natural habitats and of wild flora and fauna within the territory of member states. To this end, a network of special protected areas was established at European level under the Directive "Natura 2000", involving various Italian regions and areas. The network

also includes certain environments transformed by man over time which represent important areas for the survival of numerous species of plants and animals. The protection of Natura 2000 sites is mandatory (Presidential Decree 357/1997 "Regulation implementing Directive 92/43/EEC on the conservation of natural habitats, and of wild flora and fauna" and Presidential Decree 120/2003).

The regulation establishes that the territorial planning and programming must take into account the naturalistic-environmental value of Sites of Community Importance (SCI) and Special Protection Areas (SPA). In addition, it establishes that any plan or project, inside or outside these areas, which may in some way affect the conservation of protected habitats or species, must be subject to an appropriate assessment of the impact it may have on the sites concerned. Prior to the implementation of new measures, the development of new networks and the execution of significant maintenance activities (revamping/repowering), which may lead to environmental impacts for the "Natura 2000" protected areas, they must be submitted for **prior assessment in order to protect the areas**. It is also necessary to verify that machinery, plants and equipment subject to the measures possess

the environmental requirements necessary and to assess the potential impacts resulting from the use of hazardous substances and the adoption of appropriate management measures. In particular, the **impact assessment** (art. 5 Presidential Decree 357/1997) is the procedure implemented in cases where an intervention may significantly affect an SCI or an SPA in the "Natura 2000" network. The Ministry of the Environment and Energy Safety (MASE) publishes decrees which list the Italian SCIs.

The realisation and management of plants, activities and projects must be carried out in accordance with Italian environmental regulations (Legislative Decree 152/2006) which provide for the **integration of environmental aspects in the development of plans and programs** and the **Environmental Impact Assessment (EIA)**, with the aim of identifying and assessing in advance the effects on the environment of certain public or private projects - in their start-up phase or in case of significant changes to existing projects - and of identifying the measures to prevent, eliminate or minimise negative impacts on the environment before they actually occur, analysing the impact in terms of atmospheric emissions, water withdrawals and discharges, waste, noise and odours.

Group policy and principles

Iren Group formalised its commitment in the Biodiversity Policy, which is based on the adoption of an effective management model, consistent with the National Strategy for Biodiversity, with European Union strategic objectives (European Green Deal and EU Biodiversity Strategy to 2030) and with the United Nations Sustainable Development Goals (SDGs). The principles on which the Group's Policy is based are:

- **conservation** of the biodiversity of ecosystems, in particular for the activities carried out in vulnerable or protected natural areas;
- **monitoring** and **mitigation** of the impacts of the activities on biodiversity;
- **promotion of environmental improvement** through actions aimed at protecting areas of high ecological value and disseminating a culture of biodiversity;
- raising **awareness** and **knowledge** about biodiversity, its protection and conservation, encouraging best practice and passing it on internally and externally;
- **collaboration** with local associations and communities in actions and projects designed to increase stakeholders' awareness of the importance of protecting biodiversity.

Activities in protected areas or areas of environmental interest

The Group’s activities, by their nature, have a direct or indirect impact on the air, water resources, soil, ecosystems and the species that inhabit them. This is why Iren, aware that the preservation of the natural ecosystem is essential for long-term global sustainability, promotes the sustainable development of its activities.



Electricity production activities in protected areas mainly concern hydroelectric plants, whose main environmental impacts concern water resources and noise. In order to contain and monitor the wide-ranging environmental impacts of hydroelectric plants, **Environmental Impact Assessments** are carried out, in the realisation phase, and water withdrawals and releases are managed according to the concessions issued by the competent authorities. Management Plans have been prepared for all the reservoirs managed (pursuant to Legislative Decree 152/2006) with the relevant impact studies for those affecting SCIs. In addition, the hydroelectric plants adopt an ISO 14001-certified environmental management system, under which environmental analyses are prepared and periodically updated to identify environmental impacts and quantify their significance, with a view to their containment and monitoring of environmental performance. The main water sources affected by water withdrawals for energy production and the water bodies of discharge are detailed in the table below.

| Plant type | Withdrawals | Discharges |
|----------------|---|---|
| Hydroelectric | <p><i>Basins:</i> Valsoera, Eugio, Telesio, Agnel, Serrù, Ceresole and Brugneto, Nel</p> <p><i>Rivers:</i> Dora Riparia, Po, Maira, Secchia, Bussento, Rio Casaletto, Tanagro, Tusciano, Calore, Picentino and Tenza</p> <p><i>Torrents:</i> Orco, Clarea, Galambra, Noaschetta, Roc, Ciamosseretto</p> | <p><i>Reservoirs:</i> Telesio, Ceresole</p> <p><i>Rivers:</i> Dora Riparia, Po, Secchia, Tanagro, Tenza, Tusciano, Calore, Picentino, Piantonetto,</p> <p><i>Torrents:</i> Orco, Noaschetta, Pontiletto</p> |
| Thermoelectric | <p><i>Rivers:</i> Po, Naviglio Grande</p> <p><i>Seas:</i> Ligurian</p> | <p><i>Rivers:</i> Naviglio Grande, Ticino</p> <p><i>Torrents:</i> Chisola</p> <p><i>Seas:</i> Ligurian</p> |

Discharges are made up of cooling water from the plants or from the treatment processes of the water used in production sites. Monitoring the

presence of any pollutants in the effluent and keeping the water temperature within certain ranges are essential for the protection of aquatic fauna and flora. At the Turbigio and Moncalieri power plants, for example, the temperature of the water leaving the condensers, discharged into the Naviglio Grande canal (or alternatively into the Ticino River) and near the confluence of the Po River canal, is monitored. For the Moncalieri cogeneration plant and the Baiso hydroelectric plant, the health status of the watercourses on which the plants are located is monitored by calculating the **Extended Biotic Index (EBI)**, which is based on the analysis of a group of invertebrate animal organisms, macro-invertebrates, which colonise the different types of waterways. Based on the grouping unit and the species identified during sampling, which takes place upstream and downstream of the power plants, the quality of the watercourse can be established. Moreover, the measures to improve efficiency of hydroelectric plants, carried out by the Group, had positive repercussions on the entire system, as they reduce the need to produce energy from fossil sources and help to reduce atmospheric emissions. For all the redevelopment work carried out on plants, the plant IAFR certification (certifying that it is powered by renewable sources) was obtained, which identifies the environmental benefits expected in terms of reductions in SO₂, CO₂, NO_x, particulate and natural gas emissions. In order to minimise the acoustic impact on the surrounding environment, all systems are properly soundproofed.



The development of the **electricity distribution network** may directly involve or be in the immediate vicinity of various areas of the “Nature 2000” network, including: Collina di Superga (SCI), Meisino (SPA) and Stupinigi (SCI), in the city of Turin, Mandria (SPA) in the province of Turin, Lama del Badiotto (SPA) e Garzaia della Brarola (SPA), in the city of Vercelli. The electricity distribution network of Parma does not affect SCIs or SPAs in the “Natura 2000” network.



Waste management and environmental health activities do not affect protected areas. Plants with greater capacity (waste-to-energy plants and landfills) are equipped with a green system, in harmony with

the vegetation climax in which they are situated, with visual and environmental mitigation functions. The impacts related to the activities carried out are examined annually with the aim of verifying the result of the interventions carried out and of having all the elements necessary to confirm or modify the system implemented, in order to assess compliance with environmental regulations and authorisations and to define/update management systems improvement plans, including those related to environmental performance. The **Parma Integrated Environmental Centre (PAI)** operates in a largely industrial area and has a “green system” that, in addition to complying with the mitigation of particulates, also restores some habitats and acts as an ecological bridge between different biotopes and will lead to the creation of an ecosystem that could be an important resource for the overall recovery of the landscape and ecological value of the area. Every year, a monitoring campaign is carried out on the content of the particulates collected from the plants sowed, in order to estimate the environmental benefits in terms of the atmospheric particulate matter removed. The **Piacenza waste-to-energy plant** is located in an area that is not subject to any urban, landscape, hydrogeological, seismic or territorial constraint and in which there are no protections for parks, oases or other protected areas. The **Turin waste-to-energy plant (TRM)** obtained a positive environmental compatibility assessment via a process that included an Environmental Impact Study, the conclusions of which, in terms of vegetation, flora, fauna and ecosystems, demonstrated that the site is located within a highly developed area where no specific natural value has been detected in regard to vegetation and wildlife. Despite being in the middle of an EIA phase, the introduction of the plant does not indicate the appearance of significant symptoms of stress on the ecosystems that already suffer from human impact; the emissions do not cause any harm to the local fauna present across a vast area, including the areas of particular naturalistic interest represented by the Stupinigi Natural Park and the system of protected areas of the Po river belt.



The management of the **gas distribution** service does not have any particular impact on biodiversity. Infrastructure development, maintenance and management activities rigorously comply with the regulatory framework relevant to environmental impact. Annual walking inspections are carried out within the natural areas where pipes are present and at the end of the winter season to not damage the vegetation.



Regarding the **integrated water service**, all the water bodies receiving wastewater treated by the Group in the Emilia-Romagna and Piedmont regions are located in the basin of the Po River, which falls within the area declared sensitive. Wastewater treatment plants, therefore, are subject, depending on size, to the application of more restrictive limits for nitrogen and phosphorus. Wastewater treated by the treatment plants in the Ligurian territory is discharged into the coastal waters of the Ligurian Sea (mainly the Gulf of Genoa, the Gulf of Tigullio and the Gulf of La Spezia), while in the province of Enna, it is mainly discharged into the Salso (southern Imera), Simeto, Dittaino, Torcicoda and Sotto di Troina rivers. The treatment activity is, by its nature, aimed at maintaining optimal environmental conditions and its main objective is to ensure that discharges are appropriately treated so that they are compatible with the natural habitats of the receiving bodies of water. In the same way, protecting the areas in which sources of water withdrawal are found is of the utmost importance for the management of the integrated water service. Screenings and environmental impact assessments are carried out within the timeframe required by regulations, both for water treatment plants and water withdrawals. The Genoese plants of the Brugnato Dam lie within Antola Regional Park (Genoa), while the Gorzente lakes lie within the Regional Park of Capanne di Marcarolo, partly within the Province of Alessandria. In the Province of Piacenza, the Group owns a lowland forest within the protected area of Conoide del Nure and Bosco di Fornace Vecchia (SCI). The wastewater treatment plants managed in the province of La Spezia are located near the Cinque Terre National Park/Cinque Terre Marine Protected Area, the Porto Venere Regional Nature Park, the Regional Nature Park of Montemarcello-Magra-Vara and the Regional Islands of Portovenere Marine Protection area. The wastewater treatment plants operated in the province of Enna are located near Monte Capodarso and Valley of the Imera River Meridionale (SPA), Tratto di Pietralunga of the Simeto River (SPA), Lago di Pozzillo (SCI), Bosco di Sperlinga and Alto Sasso (SPA) and the oriented nature reserve Vallone di Piano della Corte.

No natural habitats were offset during the reporting period.

Areas and species protected

Iren Group constantly collaborates with the Management Bodies of the protected areas in which it works to safeguard the ecosystem and protected species.

It also undertakes to increasingly extend the mapping and location of plants and networks to identify their potential interferences with the protected areas they are located or in their vicinity. The **mapping of the operating sites** of the Group - the activities of which could have a significant impact on biodiversity, as they are located in or near protected areas (2 km radius) - in 2023, focused the analysis on sites where energy production, waste treatment, biogas production and electricity distribution activities take place. For this purpose, the *Natura 2000* Viewer tool was used, which provides key information on all *Natura 2000* sites: species and habitats, population size and species conservation status. The outcome of the mapping shows that, in 2023, 35% of the operational sites analysed, i.e. 42 sites, are located in or near protected areas. All operational activities, located in or near protected areas, are certified by the ISO 14001 environmental management system and are, due to their nature, subject to Environmental Impact Assessment, as required by current legislation (Legislative Decree 152/2006).

The main Sites of Community Importance and Special Protection Areas near which there are plants and/or infrastructures managed by Iren Group are monitored annually. There are 416 protected species present in the sensitive areas around which the Group operates and listed on the IUCN Red Lists, belonging to the following categories:

| IUCN categories | 2023 (number) |
|-------------------------|---------------|
| Critical risk (CR) | 11 |
| Endangered (EN) | 40 |
| Vulnerable (VU) | 51 |
| Near threat (NT) | 41 |
| Less concern (LC) | 231 |
| Regionally extinct (RE) | 2 |
| Data deficient (DD) | 12 |
| Not applicable (NA) | 28 |
| TOTAL | 416 |

In 2023, two **beehives** were placed in the Mancasale (RE) Purified Water Park. The project follows up on what has already been implemented at the Turin North cogeneration plant, the Turin waste-to-energy plant and the Integrated Environmental Centre (PAI) in Parma, and aims to monitor the quality of areas and various environmental matrices and to facilitate pollination.

More than 120,000 bees have been placed in the hives, which are able to pollinate about 60 million flowers every day in the surrounding area and to produce about 20 kg of honey per year. The project also envisages - through the observation of the conduct, health and productive capacity of bees - the verification of behaviour and the recording of any behavioural changes in the ecosystem created. The increasingly massive use of insecticides, herbicides and pesticides and the reduction of biological diversity caused by industrial agriculture, threaten the survival of bees and pollinators that are the basis of the delicate balance of the Earth's ecosystem, which is reflected in biodiversity.

