Preserving biodiversity

3-3 | 304-1 | 304-2 | 304-3 | 304-4

Enel's commitment to biodiversity

Protection of biodiversity is one of the strategic objectives of Enel's environmental policy and is regulated by a specific policy adopted by Enel in 2015 and renewed in 2023 following COP 15. The policy defines the guidelines for all the Group's biodiversity protection initiatives and the principles according to which they operate, aligned with the Kunming-Montreal Global Biodiversity Framework.

Enel has renewed its commitment to biodiversity, published in the 2022 Sustainability Report, by committing itself to concrete actions and time targets.

Biodiversity Policy

Enel's roadmap on biodiversity conservation is in line with the Kunming-Montreal global biodiversity framework, embracing the mission of taking action to halt and reverse biodiversity loss by 2030.

In particular, our Company is committed to:

- applying the **mitigation hierarchy principle** in all project phases, avoiding and reducing impacts on high biodiversity areas and ecosystem functions and services, reducing deforestation and habitat transformation; where avoidance is not possible, we strive to minimize adverse impacts, implement rehabilitation and restoration measures and finally, compensating for residual impacts;
- implementing, in the case of biodiversity significant residual impacts for new development projects, compensatory works according to the commitment of "No Net Loss" of biodiversity and "No Net Deforestation", and where applicable to have a Net Positive balance;
- assessing and transparently disclosing impacts, dependencies, risks and opportunities on biodiversity along operations, supply and value chains, setting goals and targets on priority issues;
- promoting biodiversity and nature-based solutions integration into business solutions for customers and urban ecosystem, boosting related environmental and social positive impacts;
- collaborating with public administrations, research centers, environmental and social associations and international stakeholders, as partners in the conservation, restoration and sustainable use of resources, fostering new innovative and systemic approaches and synergies while respecting the rights of indigenous peoples and local communities;
- monitoring and reporting progress towards the achievement of local and global goals and targets in alignment to main international standards and in a transparent and responsible approach, for accounting performances on biodiversity and natural capital management;
- promoting environmental awareness towards workers and stakeholders, to valorize biodiversity conservation and responsible use of natural resources.

Our commitment to nature

Enel undertakes to achieve **No Net Loss of biodiversity** for new infrastructures from 2030, commencing its adoption on selected projects in areas of high biodiversity importance beginning 2025. To achieve this goal, Enel will work in accordance with the principles of the Mitigation Hierarchy to avoid, minimize and recover impacts on natural habitats or species that are threatened, endemic or restricted in range.

In addition, Enel is committed to conserving forests and, if deforestation cannot be avoided, will reforest areas of equivalent value in line with the principle of " **No Net Deforestation**".

Enel will not build new infrastructures in areas designated as UNESCO World Heritage Natural Sites.
Enel integrates the assessment of risks and opportunities linked to nature into corporate activities in order to align risk management strategy and processes; it also undertakes to evaluate 100%[8] of the significant assets in operation by 2025 in order to update, where necessary, the associated action plan.

(8) For Enel Grids, the assessment focuses on significant assets in protected areas.

With technical and specialist support from The Biodiversity Consultancy, Enel has developed a methodology for site-specific adoption of the "No Net Loss" (NNL) principle on biodiversity, developed in a functional manner and integrated into business processes and in line with International Finance Corporation Performance Standard 6 on conserving biodiversity and living natural resources, in order to define any mitigation actions necessary for individual projects.

No Net Loss: from analysis to implementation

The methodology involves applying an impact mitigation hierarchy starting from a preliminary analysis of natural habitats, including forests, and priority species, by means of a desk analysis that involves the use of application tools such as GIS Portal (Geographic Information System)—for the correlation of georeferenced information relating to assets with global maps on habitats (IUCN Habitat Type Classification) and on species (IUCN Red List of Threatened Species)—and IBAT (Integrated Biodiversity Assessment Tool), which is specifically for biodiversity. In addition to the desk analysis, site surveys are carried out starting from the localization of the new infrastructure, and continuing up to the execution and monitoring phases. In order to mitigate and compensate for any residual impacts on natural habitats—including forests—and species, specific action plans (BAP – Biodiversity Action Plan) are defined and broken down into monitoring, conservation and compensation projects, responding to NNL's commitment to biodiversity. Enel tested the methodology by developing a number of pilot cases, starting with environmental impact assessments and the related mitigation actions already identified; it emerged that in some cases, the actions identified already guarantee achievement of the NNL, whereas for others, additional offsetting actions are required. By way of example, the results on some of the sites analyzed are shown below.

Carbo Project - The project is a study for the construction of a photovoltaic system over a site spanning 96 hectares in Spain (Andalusia), which is situated in natural habitats characterized by the presence of oaks and shrubs, and in habitats modified by the presence of crops. The species analysis did not highlight any species at risk of extinction (IUCN Red List of Threatened Species). During the impact assessment phase, many actions were defined for the conservation of local biodiversity, such as planting oak trees and green corridors along the perimeter of the plant, as well as protection and conservation interventions for some characteristic species (for example, installation of water stations, construction of protective covers using piles of stones, restoration of old buildings close to the plant used by various species as potential nesting sites) in order to promote the reproductive capacity of the species. The defined compensation plan satisfies the NNL criterion and no additional offsetting actions are required.

Barzalosa Project - Additional case to apply the methodology, concerning the design, in the Municipality of Girardot (Cundinamarca), Colombia, of a new primary substation (0.89 ha surface area) and related high voltage line (0.8 km) and medium-voltage line (47.5 km). From the impact assessment, important actions were defined to protect biodiversity, minimize impacts, and carry out reforestation, despite the area being situated within a partially urbanized habitat. Right from the screening phase, Enel identified the type of habitat with the aid of application tools and the use of detailed global satellite maps; desk analysis were also conducted on the animal species in the area, also supported by the results of monitoring campaigns carried out *in situ*. Although the application of the NNL methodology estimated a negligible net loss of biodiversity, Enel nonetheless committed to the restoration, conservation and enhancement of habitat by planting of over 200 native trees.

Measures taken to reduce impacts

Enel has consolidated experience in managing and protecting biodiversity near its production sites, starting from the site design and construction phases; particularly in the past few years, activity has focused on renewable plants and distribution networks, in line with the Group's decarbonization strategy. The Group Guidelines, issued in 2019, define the principles and procedures for managing impacts on biodiversity during the entire life cycle of plants, from the development phase to operation and decommissioning, through the application of the **Mitigation Hierarchy** in the various phases of the life cycle.

For the Group's plants and installations that have been present in the local area for a long time, environmental protection and monitoring action plans are also adopted.

In line with international standards and the principles of the biodiversity policy, the risk to biodiversity is assessed in an integrated manner right from the **feasibility** phase, starting with the location of the site of interest, and involves an assessment of the type of habitat, prioritizing habitats that do not present environmental criticalities, and considering geographical proximity to protected areas, habitats that are critical or important for biodiversity, as well as the potential presence of endangered species in the area of interest. To support the definition of local action plans for the mitigation of any risk identified, Enel adopts a consolidated process of stakeholder engagement, which involves continuous dialogue in synergy with all stakeholders—local communities, competent authorities and research institutes—with a view to supporting increasingly sustainable business for the economy, nature and people.

In the **construction** of new plants, specific action plans are also adopted to protect biodiversity by checking the effectiveness of the actions undertaken and the occurrence of any potential impacts, including at a later stage after the works have started. In the case of large plants, impact mitigation plans are envisaged, developed together with local stakeholders, including reforestation (see box "Restoration of the El Quimbo tropical forest").

Once the infrastructure is **commissioned**, protection of biodiversity becomes an integral part of environmental management, through periodical management for the checking of impacts highlighted in the authorization phase, as well as the continuous assessment of potential impacts that could occur later. This is also the moment where the plant consolidates its relationship with the local area and where initiatives are developed, such as voluntary projects to safeguard local species and improve habitat conditions, based on knowledge of the environment surrounding the site. The results of monitoring at the local level are communicated and analyzed at global level by means of internal tools, allowing the identification of general issues that need to be addressed with improvement plans or projects at Group level. The main impacts on biodiversity during operations linked to technologies are:

- **wind plants**: impacts related to collision with birds and bats. Among the global initiatives aimed at reducing interference with birds and bats, the Wind Wildlife Challenge project (2022) was launched, which involves identifying increasingly innovative solutions such as the use of sensors and tools, based on radar, chamber and multi-sensor technologies, that can detect and even actuate the automatic shutdown of the turbine concerned; tests are under way on plants in Italy, Spain, Chile, the United States and Canada. This testing campaign follows the one already launched in 2021 in the South African plant of Gibson Bay with ultrasonic deterrent systems specifically for bats;
- **hydroelectric plants**: interference with fish and soil erosion; respectively, fish restocking actions are envisaged to restore the ecosystem and species, such as the restoration or improvement of spawning or fry habitats, the planting of native species directly or near the banks of the reservoir in order to control the stability of the terrain, and also to improve habitat conditions;
- **solar plants**: related to the occupation and possible transformation of habitats. The main initiatives include agrivoltaics, where the spaces between rows of photovoltaic modules are used to plant aromatic and medicinal herbs, food plants and melliferous flowers to also encourage the establishment of pollinator species, which improve the biodiversity of the site's ecosystems and ecosystem services;
- **distribution networks**: risk of birds colliding with overhead lines being electrocuted; for this reason, starting from the design phase to the operation and maintenance of existing sites, according to the biodiversity aspects associated with the site, Enel adopts mitigation measures, including the installation of line marking devices at regular intervals along overhead power lines, as well as the isolation of live parts. Added to this are actions related to the mitigation of interference risks during the construction phase, including the relocation of terrestrial fauna to protected areas.

Reforestation São Luiz Gonzaga (Rio Grande do Sul)

Maintenance activities on existing networks require deforestation interventions to guarantee the correct and safe functioning of power lines and substations. In order to mitigate the impact of maintenance carried out on operational networks, Enel defines and adopts recovery plans for impacted habitats, through systematic planting of native species.

The main initiatives notably include an activity launched in 2017 in the Municipality of São Luiz Gonzaga (Brazil), which was completed and tested as recently as the end of 2022, linked to the license for maintaining the distribution network in the area. It is a reforestation activity using plants for phytodepuration as well as melliferous species, which are used to attract pollinating insects, created at a former landfill. Local communities have also been involved in monitoring herbaceous and shrubby flora grown in the area. Furthermore, some bird species have also been considered, for which a census was carried out based on the sighting and discovery of nesting sites.

Restoration of the El Quimbo tropical forest (Colombia)

Near the El Quimbo hydroelectric plant in Colombia, an important reforestation project focusing on tropical dry forest was started in 2014 and is still ongoing, which will affect a total area of over 11,000 hectares in the various stages of the project. In the initial phase, launched on an area of 140 hectares with the support of Fundación Natura, the best strategies to be implemented in the restoration process were defined and the optimal native species for restoration and propagation were identified; the pilot phase also led to the discovery of a new species of bromeliad *Pitcairnia huilensis*. In 2022, the area covered by the restoration projects totaled approximately 7.3 thousand hectares, including approximately 6.6 thousand hectares of assisted natural regeneration and approximately 0.7 thousand hectares of active restoration. In addition, the "Attalea" Tropical Dry Forest Research Center was created, which works in collaboration with Colombian universities on numerous ecological restoration initiatives, collaborations and projects in support of biodiversity research. Demonstrating the importance of the area from an ecological perspective, around one thousand hectares of the area being restored have already been declared a Civil Society Nature Reserve, while the possibility of extending the protected area to include a further 3 thousand hectares is being evaluated.

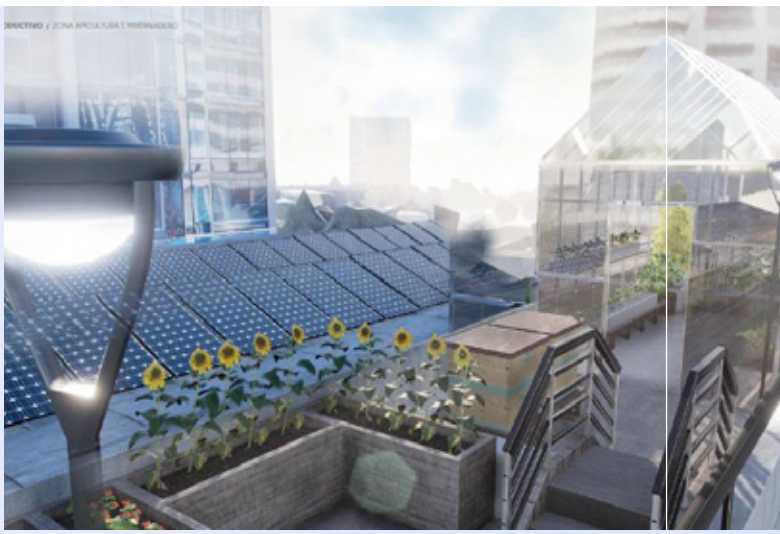
Opportunities for development and shared wellbeing

For us, interacting with the local area and communities is an opportunity to promote socio-economic development, generating value and wellbeing through our services and products, in all the contexts in which we operate. In particular, as far as cities are concerned, the ongoing growing trend of urbanization can generate significant conflicts between natural and urban environments. To meet this need, Enel recognizes the importance of adopting **nature-based solutions (NBS)** as a powerful tool for sustainable city planning and innovative design for customers who address these issues. Enel X Global Retail proposes NBS solutions that can be integrated into the offer portfolio, and which have been associated with internationally recognized scientific indicators that are used to measure the positive impacts on urban biodiversity. In practice, the NBS solutions can be integrated with technological solutions and are aimed at providing ecosystem services, from climate change adaptation and mitigation to improving the quality of life in urban centers.

Nature in the city

One of the various global initiatives for integrating NBS with Enel X solutions is an intervention carried out in Santiago, Chile, involving the rooftop refurbishment of the **Mandarin Hotel**; along with the installation of a new photovoltaic system, a biodiversity intervention was carried out involving the construction of a greenhouse, the planting of local fruit trees and the installation of a number of beehives to protect pollinating species and develop urban beekeeping.

A further environmental redevelopment intervention was carried out in the city of **Bogotá (Colombia)**, near the **e-bus terminal**, by Enel X Global Retail. The intervention involved planting urban vegetable gardens and vertical greenery, which was integrated with a number of murals. The initiative also directly engaged the local community in choosing artistic content and enhancing the urban garden.



The strategy linked to urban biodiversity is associated with further opportunities linked to power generation, such as the creation of **agrivoltaic plants**, which integrate business needs with nature. In recent years, many pilot solar plants have been built, where planting of native and pollinating species has been carried out, to support the entire ecological balance, as well as promoting sustainable crops, in synergy with local communities.

The biodiversity action plan

In 2022, **200 projects** were carried out to protect species and natural habitats at operating plants, of which 82 were developed in partnership with government agencies and non-governmental organizations and universities, for a total investment of around **11.9 million euros**. The projects were carried out in all countries and regions and mainly concern operational renewable generation plants and distribution networks. The projects included **habitat recovery activities covering 9,452 ha** (9,092 ha in 2021), most of which are related to ecological restoration and reforestation, mainly in Colombia, Brazil, Chile and Spain. Examples of the measures to mitigate impacts on biodiversity carried out to apply the related policy are available on the sustainability section of the www.enel.com website, at the following link: https://www.enel.com/investors/sustainability/strategy-sustainable-progress/biodiversity.

200 projects
for the protection of species and natural habitats

9,452 ha
of habitats restored (related to projects carried out in 2022)

In addition, in 2022 a further **63 projects** relating to plant construction sites were carried out, mainly in Brazil, Chile, Spain and North America, targeted at the conservation and monitoring of native species impacted, for an overall capital expenditure of **6.4 million euros**.

Interaction of assets with biodiversity and protected areas

Enel measures its environmental performance on aspects of biodiversity in a transparent and responsible way, both in the construction of new plants and during the operation of its power generation sites. For this reason, in 2021 we defined and calculated a set of specific indicators, which are updated annually, to measure the impacts generated and monitor the effectiveness of action plans.

Land occupation: the area of land occupied by assets. This is a general indicator, as it does not provide an indication of the quality of the habitat that has been occupied by the assets.

Land occupation[9] – Power generation assets

Technology	Hectares (ha) in 2021[10]	Hectares (ha) in 2022
Solar	16,632	27,773
Wind	12,660	13,326
Hydroelectric	202,425	202,425
Geothermal	442	442
Thermal	6,318	6,318

In 2022, the land occupation of power generation assets increased by **11,807 ha**, equal to +5%[10] of the total (238,477 ha in 2021), including 4.7% solar and 0.3% wind, in line with the development of new plants envisaged by the business strategy.

Land occupation – Asset Grids[11]

This year, data on the occupation of distribution infrastructures is also reported for the first time, calculated by evaluating the buffer zone for high-voltage (HV) and medium-voltage (MV) lines as land occupation, distinguished by voltage level and type of conductor (bare or in cable) and the surface area of transformer substations.

Technology	Hectares (ha)[12]	km
Primary and secondary substations	2,539	-
High Voltage Lines	54,296	33,716
Medium Voltage Lines	431,307	653,205
Total	**488,142**	**686,921**

Transformation of natural habitats: measures the area of land occupied in hectares (ha), classified according to the IUCN[13] habitat categories on which the assets have been built. It therefore represents a specific indicator of the impact on habitats that have been transformed to build plants. Power generation plants that entered operation in 2022 occupy land amounting to **11,807 ha**, an increase of 10% on the growth recorded in 2021 (10,700 ha), due to an increase in the development of renewable energies; of this new land occupation, **5,770 ha** (49%) relate to natural habitats (23% less than the previous year, 7,530 ha), and, of these, **537 ha** (5%) are related to forest-type habitats.
As far as distribution is concerned, almost all HV and MV lines were built in the 1970s, mainly in urbanized habitats. Around 70% of the infrastructures built to date are situated in cultivated areas, grazing land and urban areas; only the remaining 30% of the infrastructures have impacted natural-type habitats, of which only 9% are forest-type habitats.

Presence of assets in protected areas: mapping was carried out for all power generation assets and from this year also for Grids HV and MV lines, in the main Countries, [14] to assess the presence of assets in UNESCO World Heritage Natural areas and IUCN I-IV classified protected areas.

(9) Land occupation was calculated for power generation facilities using a GIS application in which each plant was modeled and georeferenced. The following criteria were used to model land occupation and area of influence: solar, thermoelectric and geothermal were modeled with the plant perimeter; for hydroelectric, the perimeter of the reservoirs was modeled; for wind plants, from the position of the generators the area of land occupation is modeled in a precautionary manner to take into account ancillary works such as yards, roads and areas used when the construction site is operative (in so as far as they are subsequently restored).
(10) Compared with last year, KPI mapping and calculation tools were refined, which led to a slight change in the figure compared to 2021.
(11) Italy, Spain, Chile MT, Peru, Colombia and Brazil (São Paulo, Rio de Janeiro, Ceará) are considered.
(12) Land occupation intended as a buffer zone for HV and MV lines and the area occupied by primary and secondary substations was calculated using the PUC (Single Cartographic Portal).
(13) https://www.iucnredlist.org/resources/habitat-classificationscheme.
(14) Italy, Spain, Chile MT, Peru, Colombia and Brazil (Sao Paulo and Rio de Janeiro).

Presence of power generation plants in protected areas as at 2022 – by technology[15]

Technology	number of infrastructures in protected areas/total number	Countries	Presence in protected areas (ha)	Presence in protected areas as % of the total occupied by technology
Solar	4/161	Greece	32	0.1%
Wind	8/266	Italy/Spain	116	0.9%
Hydroelectric reservoirs	135/1,096[16]	Italy/Spain/Chile	5,595	2.8%
Geothermal plants	0/39	-	-	-
Thermoelectric plants	2/9[17]	Italy	28	0.4%

Presence of power plants in protected areas – by Country

	Renewable and thermoelectric power plants	
Countries	**Hectares (ha)**	**% in protected area of the total area occupied in the Country**
Italy	3,738	19%
Spain	1,986	8%
Greece	32	6%
Chile	15	0.03%
Total	**5,771**	**2.3%**

The number of generating plants situated within protected areas (IUCN I-IV) **remains unchanged since 2013**, as no new plants have been built in these areas. The presence of power generation assets in protected areas mainly refers to hydroelectric plants which were largely built before the 1970s (in many cases before the creation of protected areas) and which are managed according to basin management plans shared with the authorities and which promote the conservation of local species. Notable examples are the multi-year ENDESA-bats project, developed voluntarily in the autonomous Spanish provinces of Catalonia, Galicia, Andalusia and Aragon through the study and monitoring of the bat populations that inhabit the tunnels of hydroelectric plants and infrastructures. This project aims to improve the knowledge and conservation of cave bats, their ecological needs and their relationship with the operation of hydroelectric plants, through study and monitoring campaigns, using new cutting-edge methods and technologies such as automatic monitoring by means of time-lapse photography (photo-trapping) and ultrasound recordings. Through the collation of data, Enel carries out various actions to adapt its plumbing systems so that they promote bat colonies, including the air conditioning of tunnel entrances, the targeted positioning of shelter boxes and a reduction in brightness at a number of points that are critical to the bats.

Presence of distribution infrastructure in protected areas as at 2022 – by technology

Technology	Hectares in protected areas (ha)	% in protected areas of the total occupied by the asset[18]
Primary and secondary substations	28	1.1%
High and medium voltage lines	13,769	2.8%
Total	**13,797**	**2.8%**

The countries in the Enel Grids perimeter with the highest proportion of assets present in protected areas are Spain, Italy and Brazil. Most of the Enel Grids infrastructure was built before the 1970s, in many cases before the creation of protected areas. In cases where the infrastructure falls within a protected area, Enel creates the best solutions to mitigate impact on the surrounding environment, also considering the need to comply with its service obligation. Below are some examples of mitigation projects currently under way for infrastructure that falls within protected areas (IUCN I-IV).

(15) The data reported on GIS has been revised and optimized, leading to adjustments in the value of hectares (ha) and the number of plants compared with last year.
(16) The figure represents individual reservoirs, not hydroelectric power generation plants.
(17) The figure includes plants being decommissioned.
(18) Out of the total of HV and MV lines.

Technology	Country	Plant	Land occupation (ha) in protected areas	Critical species impacted	Habitat	Biodiversity projects	
Refurbishment of existing HV line	Colombia	New Hope - Indumil	3	Bromeliaceae (*Tillandsia spp.*), Orchidaceae (*Epidendrum secundum*)	Forest	Rescue, translocation and safeguarding of 56 specimens of epiphytic plants (orchids and bromeliads)	Actions for rescue and translocation of epiphytic flora
Refurbishment of existing HV line	Colombia	Zipaquirá - Ubaté	22	Native and non-native plants belonging to different forest species (*Juglans, Quercus, Fuchsia, Trichanthera spp.*)	Forest	Planting to offset trees removal and vegetation clearance	Reforestation intervention
HV line maintenance	Brazil/Rio	Casimiro de Abreu/Rio Tabicum	1.5	*Schinus, Albizia, Cordia*	Forest	Planting to offset trees removal (about 600 specimens)	Reforestation intervention (clearing, digging holes, planting)

Biodiversity project to protect the huemul (Chile)

The huemul (*Hippocamelus bisulcus*) is a species of deer found in the area of influence of the Ñuble National Reserve, a forest reserve located near the hydroelectric plants located in the Laguna del Laja. It is a native species that is endemic to Chile and an emblem of the country, and is at risk of extinction according to the Red List of Threatened Species compiled by the International Union for Conservation of Nature (IUCN). The huemul population located in Los Nevados de Chillán in central Chile is vulnerable due to its small size and highly fragmented distribution. Since 2018, Enel has participated in a multidisciplinary project led by the Chilean Ministry of the Environment to develop and implement the "Biodiversity project to protect the huemul", which involves defining a plan for the restoration, conservation and management of the huemul population, with a view to reducing threats to the species and increasing protection measures through habitat restoration and conservation. In February 2022, the plan was approved by the Chilean Ministry of the Environment, recognizing Enel's contribution to conserving this species and preventing the risk of its extinction.

Eagle owl conservation project in Catalonia

In the first half of 2021, a project was launched in Catalonia (Spain) to monitor and conserve the eagle owl, which is the largest nocturnal bird of prey in Europe and whose conservation is under threat. Indeed, in Spain it is included in the "List of Wild Species in Regime of Special Protection" and in Catalonia it is listed as a protected species.

The project involves the adoption of specific measures to avoid the birds being killed by medium- and low-voltage lines, an initiative that is part of the voluntary projects of the Endesa Biodiversity Conservation Plan, developed with the Birding Natura company. For several weeks, a live webcam was used to display real-time activity in a nest in the plain of Lleida, in the region of Les Garrigues. In addition, radio tracking transmitters were placed on 6 eagle-owl chicks, tracking a total of 6 chicks and 6 adult birds. This measure provides information about their flight patterns during a period of one year, in order to identify and analyze the decisive factors in their development.

Biodiversity Significance:[19] this qualitative indicator makes it possible to classify power generation plants according to the importance of biodiversity present in their vicinity (high/medium/low). The methodology therefore makes it possible to identify priority sites for the protection of biodiversity in order to ensure proper management to mitigate potential impacts. Also in this case it should be noted that most sites of high significance are related to hydroelectric plants, generally infrastructures built in mountain areas and present in the locality for many years.

Sites of high biodiversity significance/ total plants by technology	**19 / 161**	**66 / 266**	**541 / 1,096**[1]	**39 / 91**[2]	**0 / 39**

(1) The figure represents individual reservoirs, not hydroelectric power generation plants.
(2) The figure includes plants being decommissioned.

In 2022, **4 new power generation plants** were built in areas of high biodiversity value, 2 fewer than in 2021, including 3 in critical habitats and 1 in areas containing species at risk of extinction, for which action plans were developed to restore habitats and protect species.

Technology	Country	Plant	Land occupation (ha)	Significance	Critical species potentially impacted	Habitat	Biodiversity projects
Solar	Spain	Sol de Casaquemada	77	Critical habitat	*Nyctalus lasiopterus* *Rhinolophus mehelyi* *Otis tarda* *Tetrax*	Grassland	Installation of nests, perches, insect boxes and bird feeders
Solar	Spain	Torrecilla	118	Critical habitat	*Triturus boscai* *Aquila adalberti*	Wetlands and Grassland	Habitat improvement for amphibious reptiles and other faunal groups: restoration of ponds to promote biodiversity Habitat improvement for wild rabbits in the Francisco Pizarro node Improvement of habitats and shelters for birds of prey
Solar	Spain	Can Lloreta	6	Critical habitat	*Olea europaea*	Grassland	Restoration of degraded area
Wind	Spain	Tico	9	Endangered species	No endangered species mapped in the project area	Wetlands and Grassland	Monitoring of birds and bats: - baseline definition and species conditions; - impact monitoring before and during construction

Presence of endangered species near plants/assets: knowledge of protected species potentially present in the vicinity of assets is important in order to evaluate the actions needed to reduce the risk of interference by Enel assets. This type of mapping is carried out for all infrastructures for which biodiversity projects are developed and includes both flora and fauna species. The summary of this mapping is presented in the infographic table of biodiversity projects.

(19) To identify areas of high biodiversity importance, the following general criteria are considered: 1) Protected areas (UNESCO World Heritage Natural Sites and IUCN I-IV); 2) Critical habitats as defined by IFC Performance Standard 6; 3) Presence of endangered species, according to the methodology developed and adapted by UNEP-WCMC, Conservation International and Fauna & Flora International ("Biodiversity indicators for site-based impacts", 2020).

- Critically Endangered (CR)
- Endangered (END)
- Vulnerable (VUL)
- Near Threatened (NT)
- Least Concern (LC)

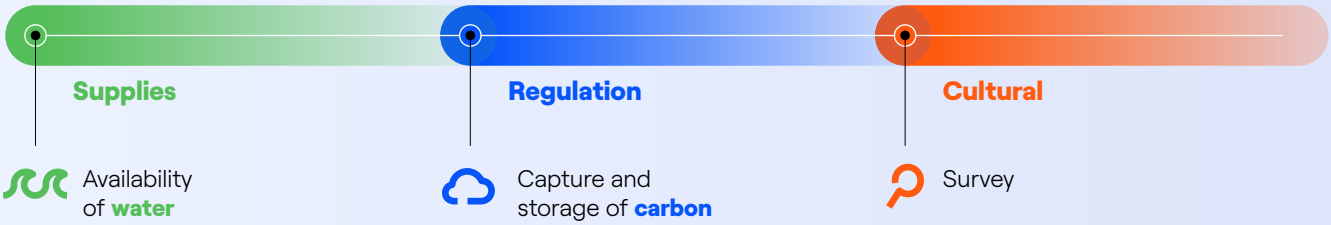
					Project type					No. of species on the IUCN Red List					
Country	No. of projects	Mandatory	Voluntary	of which voluntary	Monitoring	Conservation (species)	Restoration (habitats)	Research and other purposes	Group	CR	EN	VU	NT	LC	Total
Argentina	3	2	1	33%	1	1	-	1		-	-	-	-	-	-
Brazil	46	38	8	17%	16	7	21	2	Birds; Mammals; Fish; Plants	1	9	36	58	285	389
Chile	27	12	15	56%	9	6	6	6	Birds; Plants	-	-	3	3	69	75
Colombia	15	6	9	60%	4	5	4	2	Birds; Plants; Mammals; Reptiles	-	2	3	5	58	68
Greece	2	1	1	50%	2	-	-	-	Birds	-	1	3	3	60	67
Guatemala	8	-	8	100%	5	-	3	-	Birds; Mammals; Plants; Amphibians and Reptiles	3	3	4	8	80	98
Iberia	48	8	40	83%	2	32	8	6	Birds; Bats; Mammals; Plants	-	6	14	13	46	79
Ireland	1	-	1	100%	-	1	-	-		-	-	-	-	-	-
Italy	30	8	22	73%	6	21	3	-	Birds; Bats; Mammals; Plants; Fish	3	3	18	4	37	65
Mexico	4	4	-	-	4	-	-	-	Birds; Bats; Plants	-	1	6	8	38	53
Panama	1	1	-	-	-	-	1	-		-	-	-	-	-	-
Peru	5	3	2	40%	3	2	-	-	Birds; Plants	-	-	-	1	2	3
Romania	9	3	6	67%	3	6	-	-	Birds	-	1	5	2	7	15
South Africa	1	1	-	-	1	-	-	-	Birds; Bats	-	3	1	1	18	23
Total	**200**	**87**	**113**	**57%**	**56**	**81**	**46**	**17**		**7**	**29**	**93**	**106**	**700**	**935**

Assessment of ecosystem services: among the approaches that have been developed for some years in the scientific community to describe fully the contribution provided by biodiversity and nature, one relates to the optimization of ecosystem services. In this area, Enel continues to develop studies to verify how this approach facilitates better environmental management of its infrastructures in order to maximize the benefits for the environment and for local communities (see the dedicated box: "Optimization of ecosystem services in Chile").

Evaluation study of ecosystem services in the Fundación Huinay

Enel carried out a study in Chile to identify and enhance the most relevant ecosystem services in natural areas taken as a benchmark, in order to propose management measures for their conservation. In addition to the 5 areas assessed last year (totaling an area of 10,300 ha) which are part of the appurtenances of a number of hydroelectric plants owned by Enel in Chile, in 2022 a survey was conducted on a further 34,300 ha owned by the Fondación San Ignacio del Huinay, of which Enel is a founding member together with the Pontifical Catholic University of Valparaiso.

Ecosystem services have been classified according to the "Common International Classification of Ecosystem Services" (CICES) (https://cices.eu/), which selects and classifies services through participatory methods, applying internationally accepted standards. These are presented in three main areas, namely: cultural services, regulating and provisioning. The main ones are shown below:



The significant theoretical aspect of the environmental factor has become an economic model, put into practice on a conceptual level and tested in various environments, both industrial and uncontaminated, yielding useful results for making socio-environmental decisions.

Ecosystem services

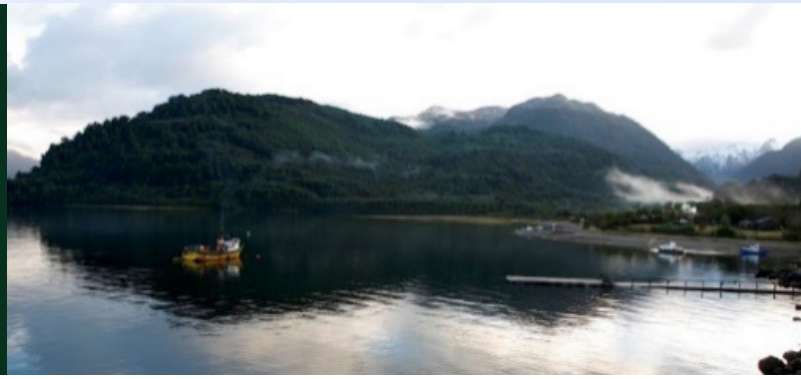
The numbers at a glance

845,110 €/year
Economic value creation

34,311 ha
Analyzed surface

109,705 tCO_2/year
CO_2 capture potential

18
Ecosystem services analyzed and leveraged for a Management Plan



Huinay – POETA Program – an example of a partnership for researching the impacts of climate on nature

In 2021, Fondazione Centro Studi Enel signed a partnership agreement with Fondación San Ignacio del Huinay with the aim of developing joint projects involving research, analysis and scientific studies. The partnership encompasses ecological issues, management and conservation of ecosystems and biodiversity, and focuses on the development of the POETA program (Observation of the terrestrial and aquatic ecosystem of Chilean Patagonia) which was launched in 2018 **with the aim of giving a scientific response to the climate emergency in Chile and around the world**. Specifically, the program has a twofold objective: the first is to **conduct long-term monitoring of the essential variables of the climate and the terrestrial and aquatic ecosystems** of Chilean Patagonia, through a network of automatic stations, field sampling and remote detection; the second is to provide, with the help of the **GEOOs portal** (Observational Geoportal), a freely accessible, real-time data management and information transfer system useful for decision-making.

Reducing pollution

3-3 | **305-7**

The reduction of the environmental impacts associated with the operation of our plants is a strategic objective for us, pursued through the application of the best technologies available and best international practices. During 2022, Enel continued its commitment on the path towards decarbonization. However, it should be noted that, due to the ongoing energy contingency in some countries in our perimeter, there was an overall increase in coal-fired generation compared with 2021, particularly in Italy due to the disconnection of energy supplies from Russia. For details on greenhouse gas emissions, please refer to the chapter "Zero emissions target".

The constant commitment to improving air quality in the areas where Enel operates is demonstrated by the care paid to reducing the main atmospheric pollutants associated with thermal generation: sulfur oxides (SO_2), nitrogen oxides (NO_x), and dust. To this end, over the years numerous measures have been taken to improve the environmental performance of most of the thermoelectric plants in the company's fleet, beginning from best technologies and international practices and taking into consideration factors such as context and local priorities, the plant configuration and its potential service life.

For years, the Group has set itself important objectives to reduce specific emissions of pollutants emitted into the atmosphere by 2030. In line with the SBTi certification process with respect to the Group's GHG emissions, which involved revising the 2017 targets and baseline net of asset deconsolidations as at December 31, 2022,[20] the 2017 target values and the baseline for the main environmental indicators were also revised. In particular, for emissions of pollutants into the atmosphere, the **new targets** include:

(20) For reference, see the chapter "Zero emissions ambition".

Objective of reducing our main emissions
(*vs* 2017 baseline year)

Recalculated

Dusts
-60%
0.005 g/kWh$_{eq}$

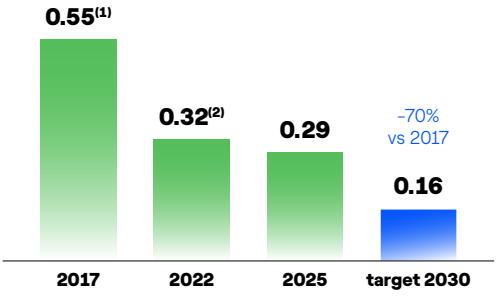
SO_2
-85%
0.05 g/kWh$_{eq}$

NO_x
-70%
0.16 g/kWh$_{eq}$

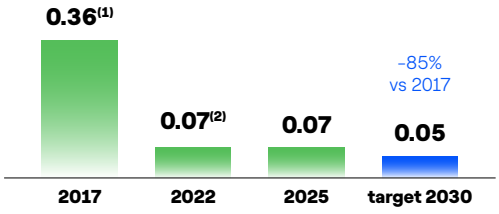
Starting from this year, the target of reducing Hg emissions from coal-fired thermoelectric plants by 100% compared to the year of reference will also be introduced.[21] Pollutant reduction trends and targets are consistent with the Strategic Plan and with the Group's decarbonization objective.
Emission measurements are carried out in compliance with each Country's regulatory framework and, in the majority of large plants, a measurement system is used that can assess compliance with the limits in real time. Its reliability is guaranteed by accredited certifying entities and through assessments carried out by inspection authorities.
In 2022 there was a slight decrease in NO_x emissions, in both absolute and specific terms, linked to the concomitant lower overall generation of gas and CCGT plants.

By contrast, SO_2 and dust emissions are in line with last year. In particular, specific emissions of SO_2 totaled 0.07 g/kWheq (in line with 2021, which was 0.07 g/kWh$_{eq}$), NO_x emissions 0.32 g/kWh$_{eq}$ (-8.6% compared with 2021, which was 0.35 g/kWh$_{eq}$) and dust 0.005 g/kWh$_{eq}$ (in line with 2021, which was 0.005 g/kWh$_{eq}$). For mercury emissions, the value for the year 2022 was 75 kg of Hg, down 81% compared with 2017. For these emissions—which have also always been subject to constant monitoring and reduction in all plants of the coal-fired thermoelectric park through the adoption of the best available and technologically applicable abatement techniques—as previously stated, the target value of 0 kg of Hg (-100%) by 2030 was set, in line with the expected closure of all coal-fired plants by 2027, whereas the value set for 2025 is 14 kg of Hg (-96% vs 2017).

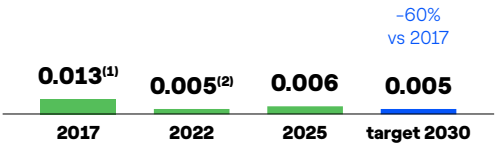
NO_x (g/kWh)



SO_2 (g/kWh)



Dusts (g/kWh)



(1) Values recalculated net of corporate deconsolidations as at December 31, 2022.
(2) The values for 2022 recalculated net of previous corporate deconsolidations are 0.29 g/kWh for NO_x, 0.08 g/kWh for SO_2 and 0.006 g/kWh for dust.

(21) The target refers to the Countries for which this measure is prescribed and therefore includes Italy, Spain and Chile, whereas Colombia is excluded. The baseline value of 387 kg of Hg, referred to the year 2017, was calculated net of corporate deconsolidations as at December 31, 2022.