

Environmental protection

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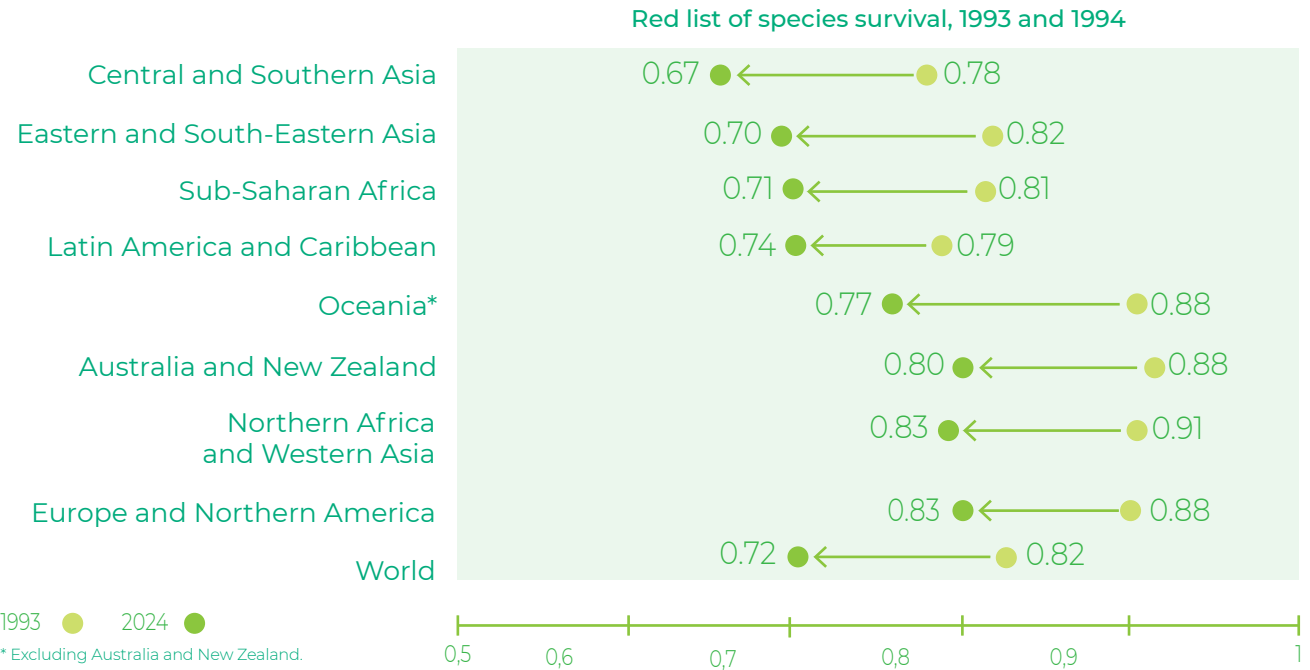


REFERENCE CONTEXT

IUCN RED LIST INDEX 1993 AND 2024

GLOBAL BIODIVERSITY
The Red List index decreased by 12% between 1993 and 2024. More than 44,000 species, or 28% of the nearly 160,000 species assessed, are currently threatened. Many of them are severely affected by climate change and habitat conversion. Regionally, the severe decline of biodiversity in all species groups is evident in Central and South Asia as well as in East and South-East Asia.

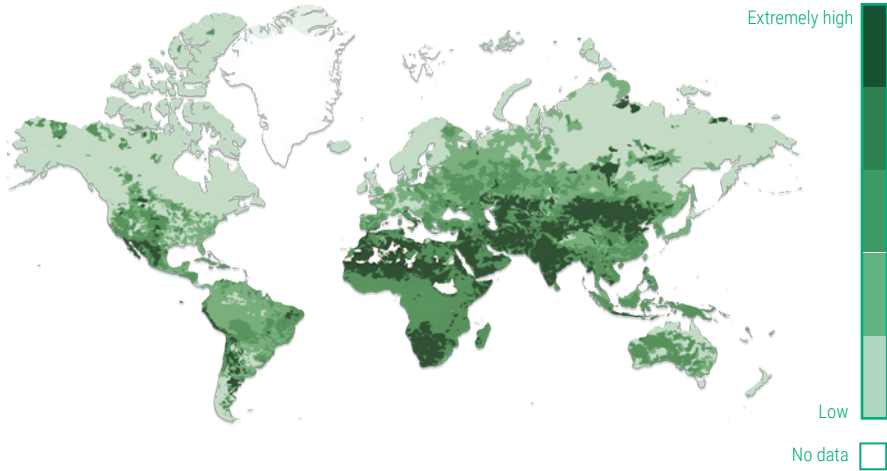
Source: © 2024 United Nations, Report on Sustainable Development Goals 2024, New York.



Note: a Red List Index value of 1.0 means that all species are categorized as of “Least Concern”; hence, none are expected to become extinct in the near future. A value of zero indicates that all species have gone extinct.

WATER-STRESSED AREAS IN THE WORLD

WATER RISK
Only 0.5% of the water on Earth is usable and available fresh water. Worldwide, 72% of all freshwater withdrawals are used by agriculture, 16% by industry and 12% by households and services. Water stress occurs when total water demand significantly exceeds available surface and groundwater reserves. At least 50 per cent of the world's population – around 4 billion people – live under water stress for at least one month a year. However, not only the availability of water, but also the risks of floods and droughts, water quality (wastewater treatment, eutrophication) and regulatory and social issues (availability of drinking water and sanitation) are crucial in determining the overall water risks that affect people's health, safety and prosperity.



Source: UN Water, Water Facts, January 2025; © 2025 World Resources Institute (WRI), Aqueduct Water Risks Atlas.

Environmental Culture



Why is it important for Eni?

Environmental protection is fundamental to ensure the sustainability of our planet and a future for new generations. For Eni it represents an indispensable value that translates into strategies aimed at pollution prevention, conservation of natural capital and the circular use of resources. We promote the growth of a shared environmental culture both internally and towards the communities that host our plants, involving all stakeholders. These principles are also embodied in our commitment to target carbon neutrality and our ambition to achieve water positivity for water-stressed areas by 2050.

GIOVANNI MILANI HEAD OF HSEQ AT ENI

Read more

FOR MORE ON:
• Impacts, risks and opportunities

See the section [Environment and Eni’s management system in the Sustainability Statement](#).

Eni pays particular attention to the efficient use of natural resources, such as water, the containment of polluting emissions, waste management, the protection of biodiversity and ecosystem services. Environmental matters, along with the Health and Safety topics, discussed in the following chapters, are managed within a single integrated HSE management system, which defines roles, responsibilities and methods of managing the activities of all sectors for environmental aspects. All entities at significant HSE risk have ISO 14001 certified environmental management systems or have planned to achieve them (by the end of 2024, 84% had achieved ISO 14001 certification), just as all entities at limited risk have implemented an HSE management system or have planned its development. In addition, to train employees and the supply chain on environmental issues, Eni is continuing a programme, launched in 2019, to raise awareness (implemented at 9 Italian sites and 2 abroad) addressed to all levels of the company, including signing Environmental and Safety Pacts, which involves suppliers in tangible and measurable improvement actions. Moreover, in 2024, Eni continued to promote Environmental Golden Rules, to support the adoption of virtuous behaviour by employees and suppliers, consistent with Eni’s values, commitment and standards.

PREVENTION AND REDUCTION OF POLLUTION

Eni is constantly committed to implementing actions aimed at safeguarding water resources, air quality and soils through an approach aimed at preventing and minimizing the risks and impacts on these environmental matrices, monitoring the actions carried out every six months. In the various geographical contexts in which it operates, Eni is committed to reducing and minimizing the impacts of its activities through the adoption of international good practices and Best Available Technology (BAT)¹⁸, both technical and managerial. Among these, attention, in the various operational sites, is certainly focused on the efficient use of natural resources as well as the prevention/reduction/control of pollutant emissions into water, the minimization of pollutant emissions into the atmosphere, the reduction of oil spills and the continuous monitoring of the effectiveness of the actions undertaken.

Case study

Cengio site remediation

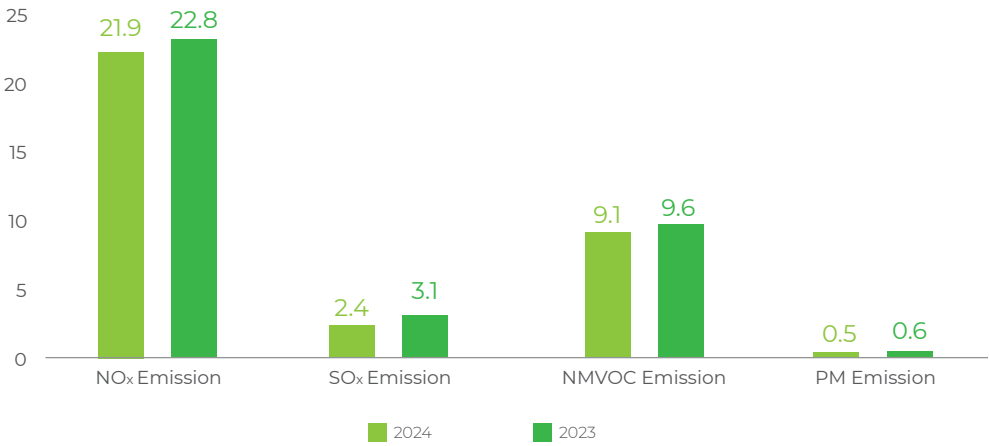
In Cengio, at the historic former ACNA¹⁹ site, transferred to Eni by decree-law as part of the industrial rescue operations ordered by the Italian government in the 1980s and 1990s when Eni was still a state-owned entity, Eni Rewind has substantially completed the approved soil remediation projects, for a total expenditure, including groundwater interventions, of almost €500 million. The interventions first saw the emptying of the impermeable basins (lagoons) in the A1 area, used during the plant’s production activities as accumulation basins for saline effluents deriving from industrial production, and then the removal of approximately 1.5 million cubic metres of contaminated materials from the other three areas of the site (A2 - former plant area, A3 - floodplain area adjacent to the former industrial site and A4 - Pian Rocchetta area one kilometre from the site). The removed materials were then allocated to the A1 area, which was subjected to a permanent safety intervention with a surface capping, bordered perimetrically by the separation septum with adjacent areas, as well as by the embankment works to contain the flooding of the Bormida river. In consideration of the proximity of the Cengio site with the Bormida river basin, a complex physical containment system for groundwater has been built, which extends 2,500 metres and consists of a plastic diaphragm made of bentonite cement immersed for a few metres in a layer of impermeable rock (so-called marl), coupled with an above-ground reinforced concrete wall that extends for the same length and rises on average around 5 metres above ground level. The structure, one of the most relevant examples built with this technology for environmental applications, was designed to ensure adequate safety factors for centennial (500-year) floods of the river, with flows of 1,750 cubic metres of water per second. The execution of environmental interventions (completed for the soil matrix and in the post-operam monitoring phase for the groundwater matrix) has made it possible to make the site areas, totalling about 60 hectares, immediately available for new production initiatives. In this direction, Eni Rewind, in the early months of 2025, signed a preliminary contract (involving a total of about 40 hectares) for the transfer of the surface right of area A1, for which the Province of Savona is in the process of certifying that the reclamation has been completed, and the ownership of area A4, which has already been certified, to the company Idroenergia di Asti, which intends to build a photovoltaic plant of about 10 MWp. The agreement with a company operating in the area with synergic activities makes it possible to enable new projects on the rehabilitated areas, despite the non-ideal location in terms of irradiation and distance from the electricity grid. The A2 area, already certified and with an industrial vocation, may enable the development of a logistic-productive pole in the near future, also taking into account the proximity of the railway connection. In the immediate future, in the A2 area, design hypotheses are also being studied for morphological reprofiling that would make it possible to bridge the difference in height with respect to the railway by laying soil and rocks that will be produced by the realization of major infrastructure works planned in the region.

¹⁸ The documents issued by the European Commission (BREF-BAT reference document) are taken into account for reference.
¹⁹ Azienda Coloranti Nazionali e Affini.

AIR PROTECTION

Eni has adopted an operating model that ensures, in addition to regulatory compliance, an approach aimed at preventing and reducing the risks associated with air pollution that these emissions may cause and the potential effects on local air quality. To this end, Eni defines and implements a systematic continuous monitoring and control plan at site level, considering the territorial and environmental context and any requirements deriving from local laws and/or specific emission authorizations, to ensure the best performance in terms of minimizing releases into the atmosphere. In all industrial activities, Eni pays particular attention to the potential effects on the atmosphere and odor impact and, in order to promote the constant improvement of environmental performance, these aspects are continuously monitored through direct monitoring and control of individual emission sources. The industrial plants operate in line with the standards and requirements set out by the environmental authorizations and with the fundamental principles of prevention, protection and mitigation of environmental impacts, orienting their actions towards continuous improvement of environmental performance. In particular, within the EU, the activities subject to the Industrial Emissions Directive (IED) also operate to ensure compliance with the provisions of the Monitoring and Control Plan and in line with the application of the BAT specifications on emissions into the atmosphere in relation to the different types (channelled, diffused, fugitive and odorous).

EMISSIONS OF POLLUTANTS INTO THE ATMOSPHERE (thousands of tonnes)



Pollutant emissions show a downward trend. The decrease in SOx emissions (-21% compared to 2023) was mainly due to the reduction in the contribution of the Sannazzaro and Livorno refineries due to plant shutdowns in the period, and that of the Venice biorefinery where, at the end of 2023, a sulphur recovery plant was put into service, characterized by higher abatement efficiency than the previous one. The reduction in NOx (-4% compared to 2023) and PM (-14% compared to 2023) emissions was influenced not only by the shutdowns of the Sannazzaro and Livorno refineries, but also by the exit from the upstream portfolio of Nigerian Agip Oil Co Ltd and the Alaska activities of Eni US Operating Co Inc., to which the decrease in NMVOC emissions (-6% compared to 2023) is also mainly attributable.

Focus on

Management of odorous emissions

Eni has long been committed to preventing and minimizing odorous emissions, having adopted a management system based on an integrated approach that combines advanced monitoring, specialist analysis and targeted actions to promote the adoption of best practices in the sector. Starting with a systematic inventory of odorous sources, supported by sampling campaigns and dynamic olfactometry analyses, atmospheric dispersion models are prepared. Following the odour impact assessment, management and technological measures aimed at preventing and reducing odour emissions are identified and implemented, and monitoring and control plans are drawn up. The main preventive measures adopted at Eni plants include structural interventions such as the construction of tank covers at water treatment plants and nebulization or odorization systems at specific items, the adoption of containment systems (e.g. 'socks' installed on the guide pipes of floating roof tanks), the installation of photocatalytic filters at specific tanks, and the construction of vapour recovery systems for fixed roof tanks.

In the **Refining** sector, an interdisciplinary project was undertaken to analyze, evaluate and propose innovative and sustainable solutions to monitor and mitigate odour emissions. According to an open innovation approach, a scouting of technologies available on the global market was carried out, selecting the two most promising monitoring solutions, which will be tested in 2025 at a pilot site.

In the **Chemistry** sector, of particular interest was the development of a methodology aimed at the site-specific assessment of the olfactory impact of production activities in multi-company industrial complexes, which allowed the selective assessment and quantification of each odour flux. The subsequent modelling phase made it possible to assess their impact on sensitive receptors and identify any effective and timely containment measures.

In the **Exploration and Production** sector, an example of effective management of odorous emissions is the Val D'Agri Oil Centre, where there is a network of electronic noses trained to recognize 'Hydrocarbons' and 'Sulphur Compounds', which are the reference odorous substances associated with the plant's activity. These devices are equipped with chemical sensors and a pattern-recognition system capable of identifying and classifying simple or complex odours, without performing a direct chemical analysis, by detecting the presence of odours, classifying the odour according to the training received, and quantifying the intensity.

WATER QUALITY

Prevention, monitoring and control measures are constantly adopted, in line with the management of emissions from water discharges, to safeguard not only the use of the resource but also the quality of the water environment. Both the implementation and the operational phases of the projects are carried out in compliance with the applicable regulations and the requirements dictated by local authorizations, which may require the engagement of local stakeholders. Eni has adopted precise internal standards to be used when local mandatory regulations are less strict, or absent, with regard to environmental conservation, based on applicable international standards and in consideration of the assessment of impacts on water quality. Eni monitors its water discharges after any treatment and the quantitative of oil in the produces water discharge. Internal early warning thresholds for specific pollutants in water discharged by each production activity are also adopted to promptly initiate any necessary corrective actions.

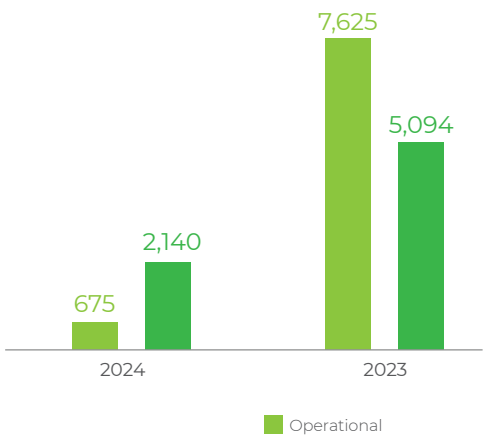
OIL SPILL MANAGEMENT

The operation of Eni's assets does not involve ground emissions of an operational nature, so potential contamination can only arise from accidental releases, such as operational spills and oil or chemical spills. Eni is constantly engaged in managing risks and emergencies related to these events, through prevention, preparedness, mitigation, response and recovery activities. Within the scope of prevention, the e-vpms® (Eni Vibroacoustic Pipeline Monitoring System) is present on all oil pipelines in operation in Italy and is subject to technological updates, also in order to detect interference with third parties and prevent break-ins.

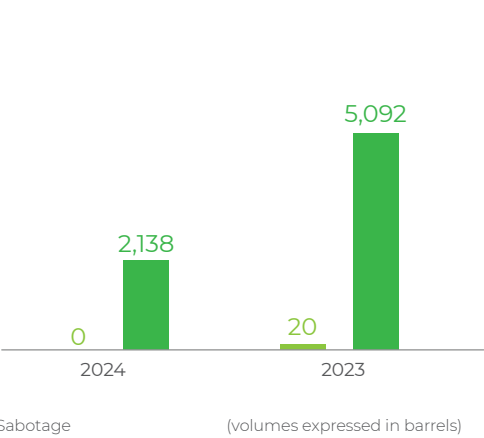
For the detection of potential spills, Eni continued to invest in its proprietary e-siam® (Eni Structural Integrity Acoustic Monitoring) technology to detect and identify corrosion and leaks from tanks and pipes, and conducted tests to further develop this technology.

In terms of mitigation, during the year, a methodology for assessing the risks arising from natural events that may affect pipelines was standardized, and subsidiaries were supported in the preventive assessment of the best response actions in case of hypothetical offshore spills, also in line with industry standards and local regulations. Efforts continue in terms of verification, monitoring and replacement of onshore and offshore pipelines, in order to ensure the integrity of assets and prevent possible oil spills, and campaigns are underway to replace the most critical sections. In particular, with regard to onshore assets in Nigeria that have been subject to sabotage activities in recent years, with effects on various aspects of the business, Eni has developed and intensified over time a strategy aimed at avoiding incidents and mitigating their potential effects. This strategy was continued until the sale of the company, which was completed in 2024. This approach was based on the early detection of losses, damage and illegal activities along transport lines, with the aim of taking early action to reduce or avoid them. Finally, to strengthen the response capacity to marine pollution following oil spills, Eni continues to participate in industry initiatives by joining regional initiatives also in collaboration with the International Maritime Organization.

OIL SPILL VOLUMES (>1 barrel)



OIL SPILL VOLUMES (>1 barrel) IN NIGERIA



In 2024, volumes spilled as a result of operational oil spills (equal to 675 barrels) decreased significantly compared to 2023 (when, following a single event at the Sannazzaro refinery, there was a spill of dense fuel oil of over 7,547 barrels, fully recovered) with important reductions in upstream due to both the sale of the company in Nigeria and the better performance recorded in Congo; the most significant event occurred in Italy (440 barrels at the Taranto refinery, spill fully recovered). Events recorded abroad accounted for 5% of the total quantities spilled, confirming a downward trend (-5% vs. 2023) with only two Countries impacted (the United Kingdom and Germany). Overall, 92% of 2024 operational oil spill volumes were recovered. Oil spill from sabotage, at 2,140 barrels, recorded a 58% reduction compared to 2023, with the number of events also declining substantially (95 vs. 373 in 2023). All events (with the exception of one that occurred along the Sannazzaro-Rho pipeline section for a total of 2 barrels) occurred in Nigeria. The largest spill amounted to 258 barrels, of which 252 were recovered. Overall, 86% of the oil spill volumes from sabotage were recovered. Volumes spilled as a result of chemical spill (70 barrels in total) decreased compared to 2023 and were mainly due to a single event in the UK (69 barrels of methanol spilled during loading/unloading operations from storage tanks due to a power outage).

WATER RESOURCE MANAGEMENT AT ENI

Eni's commitment to the management of water resources is expressed within the [Code of Ethics](#) and then further detailed in [Eni's Positioning on Water](#). In line with its commitments, Eni pursues the protection of water resources in all Countries where it is present and in all phases of its activities, seeking solutions even beyond the corporate and operational boundary. Eni periodically assesses the withdrawals of its sites also to identify actions to safeguard water resources, with particular regard to reducing high quality fresh water²⁰ withdrawals of sites based in water stress areas²¹. Actions are defined in consideration of the water risk mitigation criteria²²: avoid, replace, decrease, recycle, restore. To this end, projects are promoted to increase the efficiency of water use, the use of remediated water or produced water to replace high quality fresh water, and civil and industrial wastewater recycling systems; the use of desalinated water is another important opportunity. Partnerships and the active engagement of stakeholders are promoted, for water management in harmony with the needs of the territory, to foster social development and safeguard ecosystems. These tools aim to identify withdrawals and consumption in all sectors of activity to assess and minimise potential impacts on ecosystems and communities. The treatment, disposal or re-injection of water is subject to sector-specific best practices. In addition, procedures are defined to inform and involve stakeholders by promoting prior, free and informed consultation in order to consider their requests regarding Eni's activities, new projects and development initiatives.

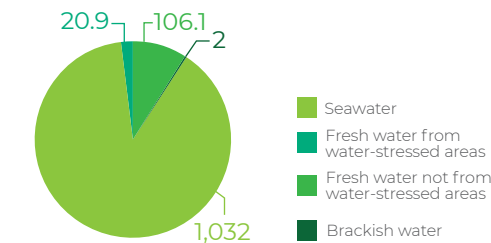
Focus on

Water positivity by 2050

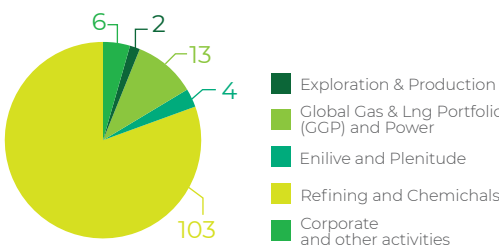
Eni, continuing on its path to safeguarding water resources, which over the years has seen it adhere to the CEO Water Mandate and publish its own positioning on water, in 2024 declared its ambition to achieve water positivity by 2050 at its operating sites, through an approach that also takes into account actions at the river basin level, inspired by the Net Positive Water Impact principles proposed by the CEO Water Mandate. As an intermediate milestone along its path towards the 2050 ambition, Eni is committed to achieving water positivity in at least 30% of its sites with withdrawals greater than 0.5 Mm³/year of fresh water in water-stressed areas by 2035 (as of 2023). The commitment to water positivity envisages the identification of actions to safeguard water directed at the most critical aspects for the territory, in terms of availability, quality and accessibility of fresh water. Eni's actions will therefore be related to the identified needs and in consideration of the importance of the operating sites, giving priority to operating sites located in high water stress basins.

Eni conducts an annual water risk analysis (particularly on fresh water, one of the most valuable resources in the value chain) with the aim of assessing the degree of exposure to water risk for all its operations and identifying proposals for potential improvement in water management. The results of this analysis constitute an input to Business Unit planning in the process of identifying interventions and their relative priority.

TOTAL WATER WITHDRAWALS BY SOURCE (MLN M³)



FRESHWATER WITHDRAWALS BY SECTOR (MLN M³)



20 High quality fresh water is defined as water from groundwater, surface water and aqueducts.
21 Water stress areas are identified with the use of Aqeduct, a tool developed by the World Resources Institute, and monitored annually through an internal analysis carried out down to the detail of the individual operational site.
22 Water risk mitigation principles are contained in IPIECA 2021, Water management framework, 2nd ed.

Interview



GIUSEPPE MASCOLO
CNR IRSA
Director of the Water Research
Institute of the National Research
Council (CNR), an institute with over
120 researchers across five locations.
Its expertise lies in water treatment
aimed at the removal of priority and
emerging pollutants.

“ Interview with Giuseppe Mascolo

Effective water governance requires solid knowledge bases and reliable, comprehensive data. What is the current situation and what elements of innovation should be considered in the forthcoming European Water Resilience Strategy?

The correct management of water resources must guarantee the satisfaction of needs for the various uses while preserving the environment and the quality of water bodies. This is an extremely complex sphere of territorial and infrastructural planning that requires both the inter-institutional collaboration of bodies in charge of resource management with the involvement of technical experts and the systematic monitoring and sharing of observational data on the hydrological cycle, the state of storage and derivation systems, water withdrawals and consumption.

Water crises are occurring with increasing frequency and intensity, highlighting deficiencies in management and infrastructure. What practices and strategies can be adopted to ensure sustainable water management?

Water crises in Italy, unlike hydrogeological events, do not damage infrastructures but cause significant limitations in water supply that drastically reduce agricultural, industrial and energy productivity. The prevention of water crises requires a multidisciplinary approach at all levels, from scientific to institutional, without neglecting the role of the end users of the resource.

In a long-term perspective, what role can scientific research play in supporting territorial management of water resources,

promoting efficient use, waste reduction and a circular approach to water management?

The vulnerability of water supply in Italy is compounded by the complexity of natural phenomena linked to changing climatic conditions: (i) agricultural production models that are highly dependent on regular water availability, (ii) the ageing of hydraulic infrastructures, (iii) the fragmentation and high number of institutional, public and private entities operating the management of water collection, transport and distribution infrastructures. Action is needed on all these fronts by improving knowledge of the processes that determine water availability in catchment areas both at the socio-economic level and in relation to water uses by increasingly favouring a circular approach to resource use.

In the field of research and technological innovation, what is the added value of the cooperation between a large company like Eni and the CNR, the most important research body in Italy?

The valorization of research results is one of the most important tools through which to affect the well-being of society. Technology transfer is one of the main processes for the valorisation of research results that contributes to the growth and competitiveness of companies. In the field of research and technological innovation, the CNR, the Country's main research organisation, has a wealth of expertise built up by developing its own technologies and drawing inspiration from the sustainability requirements of the '3R concept' (reduction of impacts, recovery and reuse of energy and resources), the same requirements of a large company such as Eni.





The reduction of fresh water withdrawals is pursued by acting on several factors levers: increasing efficiency, the use of internal fresh water recycling and the replacement of high-quality fresh water sources (groundwater, surface, municipal or third-party) with low-quality water, particularly in water-stressed areas. Examples of actions in stress areas, according to the different strands are:

DESCRIPTION	MAIN ENI ACTIONS
Wastewater Wastewater is the combination of civil and industrial effluents as well as rainwater collected and drained through sewerage or drainage systems.	Eni promotes actions to reduce water withdrawals through the reuse of wastewater, such as at: <ul style="list-style-type: none">• Livorno Refinery, where a water reuse plant for industrial waste water has been in use since 2023;• Petrochemical hub in Ravenna, with a wastewater reuse plant that is expected to be operational from 2025;• Petrochemical plant in Brindisi, with a plant to reuse about 0.4 Mm³ per year of wastewater, to be operational by 2026;• Gela biorefinery, which has increased the reuse of urban wastewater for industrial purposes since August 2024.
Reclaimed water Reclaimed water is contaminated groundwater from sites undergoing reclamation, which requires treatment to remove pollutants before it can be returned to the environment or safely reused.	Eni is committed to enhancing the value of reclaimed water through processes for its reuse, thus reducing the need to draw high quality water. For example: <ul style="list-style-type: none">• Eni Rewind at various sites, including Porto Torres, Priolo, Manfredonia and Gela, treats contaminated groundwater to enable its use for industrial and environmental purposes;
Produced water Produced water refers to water associated with the extraction of hydrocarbons naturally present in the reservoir, which may contain contaminants (oils, heavy metals or other harmful compounds).	Eni is committed to the treatment and reuse of produced water, limiting disposal activities and favouring its valorisation through reinjection into the reservoir to increase oil recovery; examples include: <ul style="list-style-type: none">• a project, in Val d'Agri in Basilicata, to treat and recover produced water (with a 72 m³/hour plant) for industrial use by replacing equal volumes of high quality fresh water, to be launched in 2027;• optimal produced water management projects at the Meleiha site (Agiba, Egypt) where the old re-injection plant was upgraded in 2023 and a new plant was built that will allow total re-injection for production purposes during 2025; in Turkmenistan, at the Burun site, an initiative was completed that will lead to zero re-injection for disposal from October 2024.
Desalinated water Desalinated water is fresh water obtained through the desalination process, which involves removing salt and impurities from seawater or other high salinity sources.	Eni prioritises the reduction of high quality fresh water withdrawals, replacing it with desalinated water and improving the efficiency of the water distribution network. For example: <ul style="list-style-type: none">• the use of desalinators in Egypt has made it possible to eliminate fresh water withdrawals at the Zohr site from the beginning of 2022 and to minimize freshwater withdrawals at the Abu Rudeis site from November 2022.

Eni regularly conducts evaluations of its suppliers and also continuously monitors suppliers' performance with regard to their overall ESG positioning and, consequently, their water management, promoting its contractors' adoption of management systems compliant with the main international standards (ISO 14001). Within IPIECA, Eni is committed to promoting best practices in water stewardship through a training programme and sharing of industry experiences and has contributed to the drafting of a guide on water stewardship for the O&G sector and alternative energies including solar, wind, CCS, hydrogen and biofuel, and is active in defining the implications of the energy transition for water resources.

Biodiversity

Biodiversity is essential to human well-being, providing critical resources such as food, medicine, energy, clean air, and water. It also plays a key role in enhancing resilience to natural disasters and offers valuable cultural and recreational benefits. Each ecosystem has unique characteristics that vary deeply depending on geographical areas, environmental conditions, and ecological interactions. Operating globally and across diverse ecologically contexts, Eni recognizes the importance of assessing, preventing, and mitigating the potential impacts of its activities, taking into account the type and complexity of the projects, the biodiversity characteristics of the site, and the surrounding social context. Impacts may be more significant when activities take place within or near sensitive areas for biodiversity conservation, such as critical habitats, protected areas, and Key Biodiversity Areas (KBAs). To manage these aspects effectively, Eni has adopted a Biodiversity and Ecosystem Services (BES) management model, applied to sites operated by the Company and developed through long-term collaborations with leading international organizations in biodiversity conservation. The BES management model is based on the assessment of biodiversity loss risk and includes: (i) mapping sites in relation to protected areas and KBAs to identify those at higher risk of significant impact; (ii) conducting in-depth studies (BES Assessment) to characterize the environmental and operational context, identify and assess dependencies, as well as direct and indirect impacts; (iii) confirming priority sites among those that, following in-depth studies, show significant residual impacts; (iv) designing and implementing Biodiversity Action Plans (BAPs) for priority sites to mitigate negative impacts and, where possible, strengthen the benefits. Impacts are managed through the systematic application of the Mitigation Hierarchy, which prioritizes preventive measures over corrective ones to avoid no net loss of biodiversity and, where possible, achieve a net gain. Additionally, BAPs define objectives, monitoring, timelines, responsibilities, and performance indicators, and are periodically updated throughout the project's life cycle to ensure effective risk management. This model allows for the effective handling of the specificities of each environmental context, ensuring concrete and measurable actions for the protection of local biodiversity. For details on the site mapping results for 2024 and the ongoing BAPs, see [Sustainability Statement](#) and [eni.com](#).

 POSITIONING	 BES MANAGEMENT MODEL
<p>► “NO GO” policy</p> <p>Eni does not conduct oil and gas exploration and development activities within the boundaries of Natural Sites included in the UNESCO World Heritage List.</p>	<p>► Risk exposure assessment</p> <p>Analysis using tools and internal processes to identify and prioritize sites with a potential risk of impact on BES.</p>
<p>► BES Policy</p> <p>Eni recognizes the importance of biodiversity for human well-being and business, by promoting an active and integrated biodiversity management approach for all operations, within contexts with varying ecological sensitivities and regulatory frameworks.</p>	<p>► Implementation of BAPs</p> <p>Plans that define actions to mitigate impacts and to conserve or enhance biodiversity, ensuring an effective risk exposure management.</p>
<p>► Eni's position on water</p> <p>Eni promotes responsible and efficient management of the water resource, protecting marine and freshwater ecosystems.</p>	<p>► Mitigation Hierarchy</p> <p>A tool at the heart of the BES management model, it is a preferred sequence of actions to prevent and avoid impact. Where this is not possible: minimize and, when impacts occur, restore. Where significant residual impact remains, compensate for related risks and impacts.</p>
<p>► Eni's position on biomass</p> <p>Eni ensures a certified and traced biomass supply, excluding feedstock from ecosystems important for carbon capture or high biodiversity value.</p>	

Case study

Water valorization in the Gela biorefinery

A new water reuse plant has been started up at the Gela biorefinery, whose objective is to maximise the reuse of water from the purification of urban wastewater for the production of demineralized water, thus minimizing the withdrawal of water resources from the Dirillo dam. The plant, installed by Enilive, was designed by Eni Rewind as a mobile and rentable structure, in order to allow greater flexibility and adaptability to the needs of water reuse and regeneration within the biorefinery. This process allows an increase in the production of water needed for the biorefinery's industrial uses from municipal wastewater with a constant and sustainable supply of 200 m³/h, ensuring a continuous cycle of water reuse and avoiding the withdrawal of the same amount, which would otherwise take place from natural sources.



Circular economy

Eni's commitment to the circular economy is expressed both in the [Code of Ethics](#) and in the internal regulatory framework which promote production and consumption models based on the regenerative principles of the circular economy, aimed at reducing the use of virgin and non-renewable resources. These principles are applied to Eni's activities, through actions aimed at improving efficiency, reducing waste, maximising the recovery and valorization of waste and by-product, using secondary raw materials or renewable sources, extending the lifespan of its assets and innovating processes and products, in order to reduce the impact on the environment and generate value for society.

DOWNSTREAM	<p>The focus is on both the study of waste-to-energy solutions for the production of new energy carriers and the transformation of traditional refineries into biorefineries.</p> <p>Enilive's circular projects include the production of advanced biofuels mainly derived from waste such as exhausted cooking oils – along with a residual portion of vegetable oils – and the production of biomethane from organic residues (agricultural and agro-industrial waste, livestock wastewater and organic waste). At the Sannazzaro site, Eni is currently assessing the transformation of non-recyclable waste into methanol and circular hydrogen with Waste-to-Chemicals technology, while the reconversion of the Livorno refinery for the production of HVO, which will be added to the Enilive biorefineries in Venice and Gela, was started in 2024.</p>
VERSALIS	<p>It is leading various circularity and sustainability initiatives in the field of bio-based chemicals, including through the recent acquisition of Novamont. Versalis has strengthened its commitment to feedstock diversification through the use of raw materials from renewable sources, such as biomass, for the production of chemicals, plastics and other products. Versalis is committed to developing products containing recycled materials alongside complementary recycling technologies, both mechanical and chemical, for plastics and rubbers, supported by internal research and collaborations with associations, consortia and other actors in the supply chain.</p> <p>In 2024, REFENCE™²³ was launched, a range of recycled polymers for food contact packaging for polystyrene applications, such as yoghurt pots, meat and fish trays and other rigid and expanded packaging. In the same year, at the Porto Marghera site, construction of the company's first plant for processing recycled plastic's polymers was completed, with start-up scheduled for early 2025. Development activities of the new proprietary technology also continued with the construction and start-up of the Hoop® demonstration plant at the Versalis industrial site in Mantua. Based on the Hoop® proprietary technology, this plant will transform mixed plastic waste – non-recyclable through mechanical process – into a second raw material (recycled oil) that can be used, together with the traditional raw material, to produce polymers with the same characteristics as virgin ones.</p>
ENI REWIND	<p>It valorizes soils, water and industrial and remediation waste with projects for the rehabilitation and reconversion of brownfield sites, applying state-of-the-art solutions and proprietary technologies.</p> <p>Eni Rewind has planned the implementation over the next three years of a plant in Viggiano (PZ) for the treatment and recovery of produced water associated with the extraction of hydrocarbons. This will prevent the need for liquid waste to be managed by tanker, as these waters will instead be recovered, treated and reused in industrial processes. In addition, in 2026 the start up of the Ponticelle (RA) bio-remediation plant is planned. This facility will focus on the valorisation of soil from remediation activities and it will include the creation of an environmental platform for the sorting and preparation of industrial waste to maximize and optimize the subsequent recovery process.</p>
UPSTREAM	<p>It focuses on the repurpose of mature assets that have reached the end of their production phase, including the reuse of single components and recycling of materials.</p> <p>Screening activities were carried out to identify future options for the reconversion of oil and gas assets (both onshore and offshore) in 2024. The currently most promising opportunities concern, in particular, the reuse of platforms for the installation of offshore data centre facilities (with feasibility studies planned in 2025 for facilities in the Adriatic Sea) and the reuse of onshore sites for the construction of wind and photovoltaic power plants (in 2024, the potential for the reconversion of some Italian industrial areas was investigated).</p>
PLENITUDE	<p>Plenitude focuses its commitment on revamping and repowering studies to extend the useful life of its assets and, through research activities, on analyzing decommissioning scenarios for plants producing power from renewable sources.</p> <p>In 2024, the activities of the European MSCA project²⁴ FiberLoop, which aims to promote the use of circular economy strategies for composite materials, improving their recyclability and expanding their applications, were launched.</p>

23 NEWER™ technology enables the purification of recycled polymers, ensuring compliance with EU Regulation 1616/2022 on recycling.
24 MSCA (Marie Skłodowska-Curie Actions) projects are funding programmes that support the training and career development of research workers. These projects are oriented towards international, intersectoral and interdisciplinary research, with the aim of increasing the skills and innovation capacity of researchers in Europe and worldwide.

Case study

Biodiversity conservation in the development of energy from renewable sources - Bonete solar plant

Integrating biodiversity and ecosystem services conservation into renewable energy development strategies is crucial to ensure a sustainable energy transition. Although the expansion of renewable energy is key to reducing global greenhouse gas emissions, large-scale development can threaten biodiversity by altering natural habitats and compromising local species if not properly planned and managed. To contribute to addressing these challenges, Eni and Plenitude have jointly joined the 'Renewables Project-REN2' of the International Union for Conservation of Nature (IUCN), alongside four other energy companies. The project lasted for two years and concluded in 2024 with the publication of four guidelines primarily aimed at developers of solar and wind plants, regulatory bodies, and decision-makers in spatial planning. The guidelines provide tools for evaluating cumulative impacts, selecting optimal locations for solar and wind plant development, and ensuring a responsible sourcing of materials. They also promote management practices that go beyond impact mitigation, contributing positively to local biodiversity. The case study on improvement actions at Plenitude's Bonete Solar Park is an example of these practices.

The Bonete solar plant, located in Castilla La Mancha in the Albacete province (Spain), began operation in May 2020. It consists of two adjacent solar plants (Bonete II and Bonete III), covering a total area of 177 hectares. The plant is located about 1 km from a Special Protection Area (SPA) within the Natura 2000 network, called Área Esteparia del Este de Albacete, an area of particular importance for the conservation of steppe bird species. In compliance with environmental regulations, the project implemented various environmental measures, with a special focus on biodiversity conservation. The management approach follows the steps of the mitigation hierarchy, with the aim of contributing to the enhancement of biodiversity in the project area. The implementation of solar plants can, in fact, provide significant biodiversity benefits through targeted strategic practices.

Among the main initiatives applied at the Bonete plant is the vegetation management plan. The area is primarily characterized by shrubs and annual grasses, providing refuge for birds and small mammals and contributing to a healthy habitat for various species. Initially, barley cultivation was planned within the plant, a crop that requires use of agrochemicals and intensive soil management. The vegetation plan replaced barley with grasslands and deliberately avoids the use of herbicides and agrochemicals. This approach promotes a healthier and more diverse arthropod community, particularly benefiting pollinators and increasing food availability for birds, with benefits on the overall ecosystem balance. A tangible result of this improvement is the recent presence of a male Little Bustard (*Tetrax tetrax*) that has chosen a plot within the Bonete plant as a lek area. Little Bustards lek areas are indicators of high-quality habitats, providing adequate resources for females and chicks. In addition to managing the internal vegetation, reforestation with native species was carried out in surrounding areas and along a green barrier that encircles the entire plant, with regular monitoring of the plantings.

Further biodiversity improvement actions included measures to support wildlife. Among these, the installation of bird and bat boxes provided nesting sites, which are often limited in nature due to agricultural intensification and consequent habitat loss. By increasing the availability of safe nesting sites, these actions support bird and bat populations near solar plants, contributing to natural insect control and helping to maintain ecological balance.

Water feeders were also installed, crucial for ensuring the survival of young birds, especially in an area with an arid climate. Targeted interventions were made on the plant's fencing to allow wildlife movement and improve wire visibility, thus preventing bird collisions. Lastly, an agreement was signed with a neighboring farm to implement agro-environmental measures supporting the conservation of the Great Bustard (*Otis tarda*) and other steppe bird species, which are vulnerable due to habitat loss and intensive agricultural practices. The measures include habitat restoration interventions, creating suitable breeding and foraging areas, and thus supporting the conservation of these species.

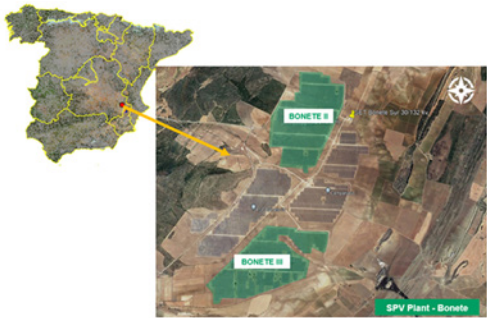


FIGURE 1. Bonete Solar Plant Location



FIGURE 2. Little bustard inside the plant

Case study

Circularity assessments on Gela and support functions

The path towards measuring circularity at Eni began in 2020 with the consolidation of a measurement model, which later evolved into collaboration with the Italian standardization body UNI. This synergetic work led to the issue of the UNI TS 11820 standard in 2022 and its revision in 2024. The approach adopted by the standard is systemic and considers multiple aspects in line with the principles of circularity shared by the two models. In particular, starting from the cardinal principle of systemic thinking, i.e. the development of circular business models, the standard dwells on areas such as the generation, optimization and preservation of value, which in operational terms means efficient resource management with particular attention to ‘circular’ resources such as secondary and renewable material resources, as well as the recovery of production residues and the reuse of resources. No less important are technological innovation, awareness of its impacts and traceability of information, collaboration and inclusiveness of all actors in the value chain and stakeholders. The standard structures the evaluation on a large number of indicators and envisages two distinct schemes for ‘product’ and ‘service’ organizations. According to the scheme for ‘product’ organizations, an assessment was carried out on the Gela biorefinery to measure the circularity on the boundary of the biorefinery’s activities, i.e. the transformation of biofeedstocks into biofuels, in particular HVO products (Hydrotreated Vegetable Oil - HVO diesel, HVO naphtha, HVO LPG, Biojet). The preliminary assessment, conducted with a third party on performance in 2023, yielded a positive result with a *circularity level* (LC) of over 61%, calculated on the 42 KPIs applicable in this area. This result provided valuable feedback, highlighting possible areas for future improvement. The next step will be the update of the 2024 performance assessment and the possible third-party verification of the circularity claim. At the same time, in the area of ‘services’ organization, the activity on Support Functions took place. In December 2024, for the first time in Italy, the Certiquality audit took place jointly with Accredia to verify the claim of circularity of Eni’s Support Functions using the UNI TS 11820:2024 compliant model. The scope of the assessment covered the Business Support processes and services provided in the offices in Italy. This measurement was carried out on the basis of 42 indicators, with a final result of 45.83% LC of the aforementioned activities, a figure that underlines the commitment of the corporate functions involved towards increasingly sustainable management.



Focus on

Chemistry from renewable raw materials and circular economy initiatives

As part of the development of circular economy projects, a key strategic driver for Eni’s chemical business, Versalis launched a collaboration with Crocco (SpA SB), an innovative company in the flexible packaging sector. The aim is to produce food packaging film made with material from the Balance® range, from the recycling of post-consumer plastics from chemical recycling for the large-scale retail market. In addition, Versalis, following the collaboration with Forever Plast, launched REFENCE™, an innovative range of recycled polymers for food contact packaging. The new products, developed thanks to the NEWER™ technology, will enhance the Versalis Revive® portfolio from mechanical recycling. To develop an increasingly sustainable industrial supply chain model, Versalis signed an agreement with Bridgestone and BB&G Group aimed at transforming end-of-life tires (ELTs) into new tires. Finally, Versalis launched ReUp, a new brand in the furniture and home decor sector for the production and marketing of plastic solutions obtained in whole or in part from renewable or recycled raw materials. In line with the strategy to strengthen the market share in high value added segments, Versalis finalized the acquisition of 100% of Tecnofilm SpA, a company specializing in compounding sector. In January 2025, Versalis signed a strategic partnership for technology licensing in the phenol chain with Lummus Technology, a company specialized in technological processes and innovative energy solutions. With this new partnership, Lummus and Versalis will develop more sustainable technology solutions and maximize efficiency, helping to meet customers’ evolving needs for productivity, energy efficiency and sustainability goals.

WASTE

Regarding waste management, Eni pays particular attention to the traceability of the entire process and to the verification of the parties involved in the disposal/recovery chain, searching for all feasible solutions to prevent the generation of waste. Almost all Eni waste in Italy is managed by Eni Rewind, which uses the digitalization instruments implemented since 2020 to improve the efficiency and monitoring of its waste management process. In order to limit the negative impacts related to waste, exclusive use is made of authorized parties, favouring recovery over disposal, in line with the priority criteria indicated by EU and national regulations. Eni Rewind, based on the characteristics of the individual waste, selects technically viable recovery/disposal solutions, prioritizing recovery, treatment operations that reduce the quantities to be sent for final disposal and suitable plants at a shorter distance from the waste production site. Furthermore, periodic audits are carried out on environmental suppliers, in which their operational waste management is assessed. Waste treatment is mainly carried out at off-site third-party plants, appropriately authorized according to local regulations. In all the companies in which Eni operates, it is committed to complying with current waste legislation and reducing the environmental impacts associated with the various phases of the management process. For this reason, Eni monitors the evolution of sector regulations and adopts tools and procedures to support waste management. Among the tools Eni adopts there is also the involvement of HSE structures in the evaluation of suppliers and the use of IT applications that support waste management.