

# Environmental activities

around **2** mln tonnes  
total waste managed

around **73%** recovered  
vs. recoverable waste

around **95%** areas  
with approved decree  
on total contaminated areas  
in sites of national priority

present in over **100**  
sites of regional  
and national priority  
Eni global contractor



The Group's environmental activities are developed by Eni Rewind, the Eni's company that operates in line with the principles of the circular economy to give new life to land, water and waste resources, industrial or deriving from reclamation activities, through sustainable reclamation and revaluation projects, both in Italy and abroad.

Through its integrated end-to-end model, Eni Rewind guarantees the supervision of every phase of the process reclamation and waste management, planning, from the early stages, the projects of enhancement and reuse of resources (soils, water, waste), making them available for new development opportunities.

## Reclamation activities

Coherently with the expertise gained and in agreement with the institutions and stakeholders, Eni Rewind identifies the projects for enhancement and reuse of reclaimed areas, allowing the environmental recovery of former industrial area and the resumption of the local economy. In this context, during 2021, were identified suitable areas for the installation of photovoltaic and wind plants.

In 2021, Eni Rewind, owner of the Ponticelle area in Ravenna, a disused industrial area outside the petrochemical plant of Ravenna, obtained the certification for the activities of Permanent Safety Measures (MISP), with the realization of a capping. In addition, was started a redevelopment plan production that includes the application of innovative, sustainable and recovery technologies, as well as to the urbanization works of the area. In the area object of MISP is planned the construction of a photovoltaic plant and a biorecovery platform for the subsequent reuse of land and management of industrial waste. In particular, the latter will be managed by HEA SpA, a joint venture between Eni Rewind and Herambiente Servizi Industriali established in March 2021.



## Water & Waste Management

Eni Rewind manages water treatment, aimed at reclamation activities, through an integrated aquifer interception system and the conveyance of water for purification to treatment plants.

Currently 42 treatment plants are fully in operation and in Italy, with over 36 million cubic meters of treated water in 2021. Continued the activities of automation and digitalization of groundwater treatment plants and implementation of the remote control. The activity of recovery and reuse of treated water for the production of demineralized water is ongoing for industrial use, as part of the operational plans for the remediation of contaminated sites. In 2021 about 9 million cubic meters of water have been reused after treatment, with an increase of over 3 million cubic meters compared to 2020.

During 2021, completed the installation of 44 devices using the proprietary technology E-Hyrec® for the selective removal of hydrocarbons from groundwater, allowing the improvement of the effectiveness and efficiency of groundwater reclamation, with significant reductions in extraction times and avoiding the disposal of more than 1,000 tons of waste equivalent.

In addition, are ongoing the activities related to the application of Blue Water technology, aimed at treatment and the recovery of production water deriving from crude oil extraction activities. It's underway the preliminary inquiry for obtaining authorizations from Local Authorities to carry out the first plant on an industrial scale in the Val d'Agri Oil Center in Viggiano, in the Region of Basilicata.

Eni Rewind also operates as Eni's competence center for management of waste deriving from Eni's environmental remediation activities and production activities in Italy, thanks to its model that, by adopting the best technological solutions available on the market, allows to minimize costs and environmental impacts.

During 2021, Eni Rewind managed a total of approximately 1.9 million tonnes<sup>1</sup> of waste by sending for recovery or disposal at external plants.

In particular, the recovery index (ratio of recovered/recoverable waste) in 2021 was 73%: the slight decrease compared to 2020 (78%) is due to the qualitative and particle size characteristics of the reclamation waste, detected during characterization, which prevented and/or limited its recovery compared to the previous year, as well as a reduction in availability from external plants, in order to recovery, in specific regions of Italy.

Relating to waste management in line with the principles of the circular economy, the valorization of resources and synergy with the territory, continues the company's commitment to the development of the Eni's proprietary 'Waste to Fuel' technology that treats the organic fraction of municipal waste to produce bio-oil and biomethane, as well as recovering the water that constitutes the main component of the so-called "wet", for new industrial and irrigation uses.

## Certification

In 2021 Eni Rewind obtained SOA Certification, the mandatory certification for participation in tenders to execute public works contracts with a basic auction amount exceeding €150,000, for its core activities in the OG 12 Reclamation and protection works and plants environmental and in the specialized categories OS 22 Drinking water and purification plants and OS 14 – Waste disposal and recovery plants.

## Not-captive initiatives

Starting from 2020, Eni Rewind has expanded the scope of its activities outside the group. In 2021, continued the activities related to the finalization of contracts with Edison, for the reclamation of the Mantova site and Altomonte (Cosenza) and with Acciaierie d'Italia, for the design of reclamation interventions of the former Ilva area in Taranto.

In addition completed the qualification processes as a supplier for important national and international operators (Arcadis, MOL Group, Edison, Tamoil, TOTAL, Q8, ADNOC).

Started the participation in several tenders with leading national operators, awarding the contract with ANAS, for survey and characterization services in the Adriatic area (Emilia Romagna, Marche, Abruzzo, Molise, Puglia), where Eni Rewind will provide chemical analysis service, through its environmental laboratories.

Signed collaboration agreements with main Italian companies that manage collection and processing of urban waste and with key players in the supply chain (CONAI). These agreements are aimed at assessing the opportunity of setting up new waste treatment and recovery plants on reclaimed land or will become available following the progressive conversion of Eni's refining and chemical sites.

(1) The volume includes waste deriving from the management of the environmental activities of the points of sale network (about 92 ktonnes), whose "producer" is the same environmental company in charge of the execution out the work.

## Eni Rewind outside Italy

Eni Rewind, starting from 2018, has made its expertise available to Eni's subsidiaries located in foreign countries for environmental issues, in particular for management and enhancement activities of the water resource, soil, as well as training and knowledge sharing.

In January 2021, Eni Rewind signed a Memorandum of Understanding (MoU) with the National Authority for oil and gas of the Kingdom of Bahrain (NOGA) with the target to identify and promote joint initiatives for the management, recovery and reuse of water and soil resources and waste in the country. In October, an assessment was carried out at the petrochemical plants and refining of the Kingdom of Bahrain which has identified three possible areas of activity for Eni Rewind related to groundwater modeling, waste management and field testing of the proprietary E-Hyrec® technology.

Eni Rewind obtained the qualification as a supplier to Abu Dhabi Oil Company (ADNOC) for the activities of demolition and reclamation.

Completed the feasibility studies on the optimization of waste water management and process water through its reuse for plants located in Algeria and Libya and extended the design services to foreign subsidiaries for environmental activities and decommissioning of the operative and disposed points sales.