



# CCS and Agri



**Distinctive model**  
based on **technical expertise, operational capabilities, and high-quality assets**

Start-up of the **Ravenna CCS project Phase 1**, first in Italy for CO<sub>2</sub> capture, transport and storage

**HyNet North West**  
selected by the British Government as a **priority project**

**Agri-feedstock production**  
a three-fold increase vs. 2023

Eni recognizes and supports the transition to a lower carbon model and, on this basis, has developed a decarbonization strategy of the Group's products and industrial processes to target net zero Scope 1+2+3 emissions by 2050. Eni's decarbonization path leverages on the skills and knowledge, matured within our traditional businesses and is implemented through the development of innovative and distinctive models related to CCUS projects, agri-business and carbon offset initiatives.

## CCS PROJECTS

Within the CO<sub>2</sub> capture and storage solutions, Eni has developed a distinctive model based on the expertise matured in the traditional businesses, on the knowledge of the exhausted gas reservoir which in synergy with the existing infrastructures will be reused for the CO<sub>2</sub> storage and on the expertise gained in the past storage activities.

Thanks to its wide portfolio in different Countries, Eni targets to achieve a gross storage capacity of over 15 mmt tonnes/y before 2030 and more than 40 mmt tonnes/y after 2030.

In Italy, in August 2024, just 18 months after the Final Investment Decision (FID), was launched the Phase 1 of the Ravenna CCS project, developed jointly with Snam through a 50-50 joint venture. The project, the first in Italy, consists of several phases, starting with the capture of approximately 20 ktonnes/year of CO<sub>2</sub> from Eni's natural gas processing plant in Casalborsetti, near Ravenna, to transport and storage in the Porto Corsini Mare Ovest depleted gas field, operated by Eni in the offshore Adriatic.

On an industrial scale, it represents one of the world's most successful capture systems with an efficiency of more than 90% at a CO<sub>2</sub> concentration of 2.4% and with atmospheric pressure. Another distinctive feature of the project is the powering of the capture plant through the recovery of the self-produced heat energy and electricity from renewable sources, with the result that the volume of CO<sub>2</sub> captured actually corresponds to the amount abated.

The project includes a larger scale Phase 2 with a CO<sub>2</sub> capture and storage capacity of 4 mmt tonnes/y by 2030, with a projection of growth in the following years up to 16 mmt tonnes/y based on market demand and thanks to the total storage capacity of the depleted gas fields in the Adriatic sea, currently estimated at more than 500 mmt tonnes.

The Ravenna CCS project has been included in the European list of Projects of Common Interest (PCI Projects) as a CO<sub>2</sub> transport and storage infrastructure, within the integrated Callisto project (Carbon Liquefaction Transportation and Storage) Mediterranean CO<sub>2</sub> Network which, in addition to the Italian emitters, also involves the emitters of the industrial area of Fos sur Mer near Marseille, in France.

In the UK, Eni has established a leadership position with the HyNet North West project under development, selected by the UK

government as one of two priority CCS projects ("Track 1") for the Country. The project aims to decarbonize industrial areas in the North West of England and North Wales through the capture, transport, and storage of CO<sub>2</sub> emitted by existing local hard-to-abate industrial activities and by the future hydrogen production. Eni is the 100% operator for CO<sub>2</sub> transport and storage activities and will convert and reuse its depleted offshore gas fields and part of the existing infrastructure in Liverpool Bay. The activity of CO<sub>2</sub> injection is expected to start in the second half of the decade with a stored volume in the reservoir of 4.5 mmt tonnes/y in the first phase, increasing to 10 mmt tonnes/y after 2030. In the last quarter Eni finalized with the UK Authorities the agreements on the terms and conditions of the business model for transport and storage activities that will be included in the economic license expected in 2025.

Relating to the emitters that will feed CO<sub>2</sub> into reservoir storage, the UK authorities have already selected four priority capture projects, with an overall volume of about 3 mmt tonnes/y of CO<sub>2</sub>. In order to ensure the 4.5 mmt tonnes/y volume expected for the first phase, has been started the "Track 1 Expansion" process for selecting additional emitters.

In October 2024, the UK Government announced the allocation of funds of about £22 billion in 25 years for the two priority projects of Hynet NW and East Coast Cluster, included in Track 1, in order to support the development of the activities of the entire CCS supply chain.

In the United Kingdom, Eni is also implementing the engineering phase for the development of the Bacton Thames Net Zero CCS project, which includes the storage of CO<sub>2</sub> in the Hewett offshore depleted gas field, to help decarbonize the south-eastern part of the Country and the London industrial area. Eni is the 100% operator for CO<sub>2</sub> transport and storage activities and has signed a collaboration agreement with 12 industrial partners from the area's hard-to-abate sectors who have expressed interest in participating in the project. The reservoir's strategic location in the south-western part of the North Sea allows to assume that the project will also play an important role in the decarbonization process of industrial sites in the Northern Europe. Start-up is planned by 2030 with a storage capacity of about 5 mmt tonnes/y of CO<sub>2</sub>, with a possible expansion up to 10 mmt tonnes/y.

In the Netherlands, following the acquisition of Neptune's assets, Eni is developing the CCS L10 project, which involves the storage of CO<sub>2</sub> in the operated depleted gas fields offshore in the North Sea. Eni is a 39% operator of the joint venture that will develop the project.



In 2024, negotiations have been started to define the general terms and conditions with some emitters and consortia operating the "Aramis" CO<sub>2</sub> transport projects and the onshore CO<sub>2</sub> collection hub in the Rotterdam area (CO<sub>2</sub> Next). The issuance of the storage license by the Dutch authorities is expected in the first half of 2025, and the CO<sub>2</sub> storage is expected to start up by 2030 with a capacity of about 5 million tons/year.

In addition, the CCS portfolio includes projects to manage CO<sub>2</sub> associated with upstream production under development in North Africa and initiatives under evaluation in the North Sea and in the Asia-Oceania area.

## AGRI-FEEDSTOCK INITIATIVES

Eni's development model for the agri-feedstock initiatives is targeted to provide vegetable oil to feed Eni's supply chains, starting from the feedstock produced by the cultivation of degraded land, rotational crops and the valorization of waste and residues from the agro-industrial and forestry supply chains. This distinctive model of vertical integration, with end-to-end approach aims at ensuring volumes of vegetable oil at competitive cost, supporting the expansion of Eni's biorefining activities, while enabling significant positive impacts on local development and employment.

According to the model, agri-feedstock production is entirely delegated to local farmers through the cultivation of their own land or the collection of agro-industrial and forestry residues.

For the production of vegetable oil, seeds and residues are then processed in extraction plants, so-called agri-hubs, owned by Eni or by third parties, according on the industrial maturity of the producing Country.

The vegetable oil's by-products are recovered and transformed into feed and fertilizers with positive impacts on the food security in these Countries.

Eni's agri-feedstock supply chains are certified according to the ISCC-EU (International Sustainability and Carbon Certification) sustainability scheme, one of the main voluntary standards recognized by the European Commission for the certification of biofuels (EU RED II).

In 2024, production of vegetable oil amounted to 130 ktonnes, volumes are tripled compared to the previous year. Eni's agri-feedstock activities in 2024 mainly includes the following Countries: (i) in Kenya, where two agri-hubs are operational with a production capacity of 70 ktonnes/y of oil, agri-feedstock activities were developed over an area of more than 80 thousand hectares. The total 2024 production, including the share of waste and residues, amounted to 48 ktonnes; (ii) in Congo, an agri-hub with a 30 ktonnes/y capacity was completed in the last quarter and started the agricultural supply chain which will lead to the first vegetable oil production in 2025; (iii) in Côte d'Ivoire, the production of vegetable oil on an industrial scale from the valorization of forest residues of rubber seed was started for a total volume of 4.5 ktonnes including the share of waste and residues from

agro-industrial processing; (iv) in Mozambique, the agricultural supply chain was started with the finalization of more than twenty contracts with local aggregators; production for the year was about 600 tons; (v) in Italy the collaboration with Bonifiche Ferraresi progressed; the total production of the year amounted to 27 ktonnes, including the valorization of residues and waste; (vi) in Vietnam the valorization of agro-industry allowed the production of 30 ktonnes of vegetable oil; (vii) in Angola, the agricultural sector was launched with the finalization of more than 8 agreements with local aggregators; (viii) in Kazakhstan the production of vegetable oil from agricultural chain amounted 6 ktonnes; (ix) in Indonesia started the production from agro-industrial waste for a volume of 9 ktonnes. Furthermore, were valorized another 5 ktonnes of waste from the agro-industrial chain from Asia.

In Rwanda, the production of quality seed addressed to farmers in other African Countries progressed.

In 2024, a series of assessments were also launched in Brazil, Europe and other Countries in Africa and Asia to identify further opportunities for the development of the agri-feedstock business.

In May 2024, in Kigali, Rwanda, Eni and IFC (International Finance Corporation) signed a collaboration agreement for a total financing of \$210 million to support agri-feedstock initiatives in Kenya. The agreement provides that IFC will fund up to \$135 million and the remaining \$75 million will be covered by Cassa Depositi e Prestiti SpA. The funds are also addressed to support the local agricultural supply chain through the provision of support services to farmers, also promoting access to subsidized credit for local stakeholders.

## CARBON OFFSET INITIATIVES

As part of Natural Climate Solutions (NCS), since 2019 Eni has launched initiatives focused on the protection, conservation and sustainable management of forests, mainly in developing Countries, which are considered among the most relevant internationally as part of climate change mitigation strategies. These initiatives are framed within the so-called REDD+ (Reducing Emissions from Deforestation and forest Degradation) scheme, defined and promoted by the United Nations, which involves forest conservation activities with the goals of reducing emissions and improving the natural storage capacity of CO<sub>2</sub>. At the same time, the projects promote an alternative development model for local communities through the promotion of socio-economic activities in line with sustainable management, forest enhancement and biodiversity conservation.

The main forest protection and conservation initiatives supported by Eni are: Luangwa Community Forest Project (LCFP), Lower Zambezi REDD+ Project (LZRP) and Kafue in Zambia, Ntakata Mountains and Makame in Tanzania, Mai Ndombe in Democratic Republic of Congo, Great Limpopo REDD+ Project (GLRP) in Mozambique, and Amigos de Calakmul in Mexico.

In November 2024, Eni signed an agreement with the Côte d'Ivoire's Ministry of Water and Forests to launch a project to conserve and restore forest area in the Country. The agreement, defined in partnership with the Ivorian authorities, is in line with



the Country's National Development Plans and with the strategy to reduce deforestation and related emissions, as well as the deal will help to achieve zero emissions in the development of the Baleine project.

In 2024, in Kenya, Eni launched a project on sustainable agriculture and land management (Sustainable Agriculture Land Management - SALM), which involves the promotion of agricultural practices that can increase crop yields and at the same time increase organic carbon content in soils.

During the year, progressed the evaluation of further NCS initiatives both in the context of restoration and sustainable management of ecosystems and in the context of SALM in Africa, Latin America and Asia.

The application of technological solutions integrates the nature-based solutions for generating carbon credits. In this regard, since 2018, the Company has launched the "Eni for Clean Cooking" program to develop projects in order to promote the introduction of improved cooking systems that ensure the reduction of woody biomass consumption by households, with the aim of improving health conditions and promoting forest conservation. In addition to the positive impact on health and the environment, the industrial

approach to the issue of access to "clean cooking" allows the development of entrepreneurship and the local economy.

The program has been launched in Côte d'Ivoire, Congo, Mozambique, Angola, Rwanda, and Tanzania, and expansion to other Countries in Sub-Saharan Africa and Asia is under evaluation. In 2024, about 1.2 million people have been reached in Sub-Saharan Africa for a total of 1.5 million people since the program's start-up. In addition, Eni joined the "Clean Cooking Declaration: Making 2024 the pivotal year for Clean Cooking" to accelerate universal access to more advanced cooking systems, which are essential to ensure access to affordable, reliable and sustainable energy systems for all, as set out in the UN Sustainable Development Goal number 7. The declaration was signed by Governments, the private sector, international and civil society organizations attending the Paris Summit. In line with the IEA scenarios, feasibility studies were launched during the year for the use of "advanced" clean cooking systems that prefigure the deployment of induction stoves in urban areas and pyrolysis stoves in rural areas that promote, from a circular economy perspective, the use of agricultural waste, including by-products from Eni's agri-feedstock supply chain. In 2024, approximately 5.3 mmt tonnes of CO<sub>2</sub> were included in the Eni's credit portfolio.