INCREASED EFFICIENCY AND REDUCTION OF GHG EMISSIONS

Improving carbon efficiency and reducing GHG emissions are the first pillar of Eni’s decarbonization strategy, which is divided into specific short and medium term targets. In the short term, Eni has confirmed its 2025 target of reducing emission intensity by 43% compared to 2014 in upstream operated assets, through the elimination of process flaring, the reduction of fugitive methane emissions and the implementation of energy efficiency projects. These initiatives also contribute to the objective of improving the carbon efficiency index by 2% a year by 2021 compared to 2014, which is reflected into an overall improvement of 13.2% over the period, through energy efficiency projects and initiatives counting on all Eni businesses contribution.

DIRECT GHG EMISSIONS

Eni direct emissions*
(MtCO₂ eq - 100% operated)

<table>
<thead>
<tr>
<th>Year</th>
<th>Gas &amp; Power</th>
<th>Exploration &amp; Production</th>
<th>Refining &amp; Marketing and Chemicals</th>
<th>Corporate and Other activities</th>
</tr>
</thead>
<tbody>
<tr>
<td>2010</td>
<td>78%</td>
<td>45%</td>
<td>3%</td>
<td>2%</td>
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<td>2011</td>
<td>78%</td>
<td>45%</td>
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<td>78%</td>
<td>45%</td>
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</tr>
</tbody>
</table>

* The GHG emissions from methane venting have been revised following the refinement of the estimation methodology, in line with international methodologies developed thanks to the CCAC OGMP Partnership. Therefore, the historical series of this emission category has been revised in order to ensure the consistency of the performance indices with respect to the reduction targets of the GHGs communicated by Eni.

Eni direct GHG emissions on a 100% operated basis:
→ In 2018 remained substantially stable (+0.5%) compared to 2017
→ About 50% is already subject to carbon pricing schemes, mainly the European Emission Trading Scheme which covers all the major mid-downstream plants
→ 56% comes from the Exploration & Production business

Direct GHG emissions [%]

Half of the GHG emissions are concentrated in Europe and in particular in Italy (45% of the total). The remaining amounts relate almost exclusively to assets located in Africa (44%) and, to a lesser extent, in Asia Oceania (6%) and America (2%).

By geographical area

- Italy
- Rest of Europe
- Africa
- Americas
- Asia and Oceania

By type

- Combustion and process
- Venting
- Flaring
- Fugitive methane emissions

2025 VS 2014 TARGETS

-43% UPSTREAM EMISSION INTENSITY
-80% UPSTREAM FUGITIVE METHANE EMISSIONS
2% ANNUAL IMPROVEMENT OF THE CARBON EFFICIENCY INDEX

The progressive improvement in the GHG intensity index has allowed the absolute value of upstream GHG emissions from hydrocarbon production to remain stable in the period 2014-2018 despite the considerable increase in production (+25%). Without this improvement, Eni GHG emissions would have been almost 6 MtCO₂ eq higher in 2018. The objective of reducing upstream GHG intensity will contribute to the target of improving the carbon efficiency index by 2% a year by 2021 compared to 2014. It will be pursued by all Eni business units and will include Scope 2 emissions (see the section Energy Efficiency, p. 20).

**PROCESS FLARING**

The main driver to reduce the emission intensity of the upstream business is the minimisation of flaring, which in 2018 accounted for 27% of emissions from hydrocarbon production. Eni is engaged in specific programmes to reduce gas sent to flaring, through an emphasis on the production of electricity for local populations, distribution for domestic consumption or export. Where these practices are not possible, Eni has created reinjection systems in natural gas reservoirs.

In 2018 the upstream GHG intensity index calculated per unit of gross hydrocarbon produced (100% operated) improved by 6% vs 2017, reaching 21.44 tCO₂ eq/kboe, thanks to the reduction in emissions from flaring and the ramp-up of the gas fields in Egypt (Zohr) and Indonesia (Jangkrik), as well as the return to full production in Norway (Goliat), plants with lower emission intensity than the average of E&P assets.
METHANE EMISSIONS

Eni continues its commitment to optimising its monitoring and reporting processes to reduce methane emissions from operated assets. Methane emissions are essentially concentrated in the upstream value chain (98 kton, equal to 94% of the Eni total) and are due to fugitive emissions, unburnt methane from flaring and process venting. As part of the Oil and Gas Climate Initiative (OGCI) partnership, a collective target for reducing upstream methane intensity (defined as the ratio of total methane emissions to net natural gas production) was announced in 2018 and envisages reaching a value of 0.25% by 2025.

The reductions recorded so far have been achieved by implementing LDAR (Leak Detection and Repair) campaigns, which consist in carrying out on-site monitoring campaigns of plant components in order to identify and eliminate methane leaks by scheduling appropriate maintenance. It is possible to control almost entirely fugitive emissions enabling savings and improving safety in operations. To date, 69% of Eni upstream assets (calculated on the basis of production levels) are already covered by LDAR programmes.

In absolute terms, in 2018 Eni achieved a reduction of almost 2 MtCO$_2$eq in upstream fugitive methane emissions compared to 2014, in line with the target of an 80% reduction by 2025. Emissions are stable vs. 2017 as the progressive implementation of on-site campaigns has been offset by new fields recently started up (Zohr, Jangkrik), so the campaigns will be carried out in 2019.

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CH$_4$ emission sources - Total Eni 2018

- Fugitive: 41%
- Venting: 31%
- Flaring: 20%
- Combustion and process: 8%

For new fields, a conservative estimate of emissions is used before carrying out monitoring campaigns, which can only be done once the fields are fully operational.
Eni is also continuing its participation in the Climate and Clean Air Coalition (CACC) Oil & Gas Methane Partnership, a public-private partnership led by the UNEP, in which it develops appropriate plans to control methane emissions, based on the execution of monitoring campaigns and the assessment of mitigation opportunities.

**COMMITMENT TO ENERGY EFFICIENCY**

The carbon efficiency index aims to measure the intensity of direct and indirect GHG emissions (Scope 1 and Scope 2) of Eni’s main productions, thus measuring their degree of efficiency in a decarbonization context. The target extends the GHG reduction targets to all business areas with an improvement of 2% a year to 2021 compared to the value of the 2014 index. This target refers to the overall Eni index, maintaining the appropriate flexibility in the trends of the individual businesses.

In 2018, Eni invested about €10 million in energy efficiency projects, which, once in full operation, will yield energy savings of 313 ktoe/year, amounting to a reduction in emissions of about 0.8 million tonnes of CO₂eq. In the upstream sector, structural and operational interventions to make production processes more efficient made possible to add a further 19 ktoe in energy savings, equivalent to 22 kton CO₂eq compared to those achieved last year (729 kton CO₂eq compared to baseline 2014). For the other industrial sectors, works carried out in 2018, at full operation, will provide further savings of around 18 ktoe, equivalent to 42 ktons of CO₂eq of direct emissions avoided, in line with planned savings.

The commitment to improving energy performance is also demonstrated by the inclusion in Eni’s HSE regulatory system of tools aligned with ISO 50001 certification schemes. Currently, about 60% of Eni’s global energy consumption is due to industrial installations already ISO 50001 certified and more than 90% coverage is expected by 2022.