Carbon Efficiency

We recognize climate change as one of the most important global challenges today and acknowledge the goals set forth by the Paris Climate Change Agreement. OMV is fully committed to climate change mitigation and responsible resource management and we aim to find the right industrial-scale solutions for a lower-carbon world. The Carbon Efficiency focus area also covers our contribution to the energy transition. We are a supporter of the Task Force on Climate-related Financial Disclosures (TCFD). We set targets to manage and reduce the carbon footprint of our operations and product portfolio. Reducing greenhouse gases will decrease our environmental impact and have a positive financial impact by ensuring compliance with climate-related regulatory requirements and ensuring the efficient use of resources.

Key Figures

A–
(Leadership) score in CDP Climate Change

–9%
Carbon intensity of operations vs. 2018

57%
share of natural gas in production mix

Climate-related risks and opportunities

Climate-change-related risks and opportunities are integrated into OMV's Enterprise-Wide Risk Management (EWRM) process aimed at identifying, assessing, and managing business-related risks. The short- and medium-term risks are analyzed for their impact on the Company's three-year financial plan. The effects of long-term risks are evaluated based on a semi-quantitative analysis, taking into account a wider range of uncertainty. We see climate change having a limited impact on our business plans and objectives in the medium term (five-year horizon). However, management pays close attention to climate-change-related long-term risks and opportunities and takes these into account in strategic decision-making.

Risks are identified in a bottom-up approach by the employees responsible for our day-to-day business, and in a top-down approach by the corporate units responsible for monitoring regulatory, market, and reputational risks in line with the latest national and international developments. These risks are assessed in terms of their potential impact on the medium-term financial performance plan.

In the bottom-up approach, climate-change related risks are identified using OMV's environmental risk management method, which is in conformity with ISO 14001, the standardized methodology of the EWRM process. (For more details on EWRM, see Risk and Opportunities Management.)

The following climate-change-related risks and opportunities are taken into account on this basis:

Physical risks	Periods of low or no precipitation on surface or subsurface water supplies would lead to inability to access water for the normal operations (internal consumption) in areas of low water availability. Intensified water scarcity due to changes in precipitation, more frequent drought periods, and increased water stress, could be a long-term risk to OMV Upstream exploration and production activities, e.g., in Tunisia and other countries in the Middle East and Africa region as well as in Romania, which are already experiencing a certain level of water stress.
Transition risks	Potential future restrictions on the carbon intensity of feedstocks, political and security risks in the countries of origin of our feedstock, and any other supply limitations pose a threat to sufficient refinery feedstock supply. There is a risk of imbalance between certificates allocated and Company-required emissions volumes, resulting in higher costs, generated by the uncertainties about the allowance demand and abatement costs. The risk of decarbonization policies forces OMV to operate on a net carbon-neutral basis. Current and emerging regulations in line with international public-sector initiatives, such as the Paris Agreement, and their subsequent transposition into national law in the countries in which OMV operates result in limits on GHG emissions by the energy industry. This process of decarbonization will change the energy mix and will lead to a reduced demand for fossil fuels with a high carbon content. There is a risk that demand for refined fuels may decrease due to less carbon-intense substitute products coming onto the market. Emissions regulations, energy efficiency regulations, and regulations on the increased share of renewables in the energy mix are expected to result in a 5% decrease in gasoline and diesel production in our European core markets, and to a 51% decrease in our heavy products production by 2025. Potential regulatory limitation of flaring of associated gas will affect OMV assets that still have continuous flaring and venting practices in place, e.g., in Yemen, Romania, and Tunisia. Reputational risks stem from the increasing number of investors who include a company's environmental and social responsibility as a high-weight criterion in their investment decision-making process. This can be for reasons of internal policy or due to regulatory pressure for public investment transparency regarding sustainability issues.
Transition opportunities	Decarbonization will create opportunities for OMV based on the increased demand for lower- or zero-carbon fuel (natural gas, CNG, LNG, hydrogen) and higher-value products generated from hydrocarbons, such as petrochemicals. We expect a 12% increase in petrochemicals production by 2025 (as compared to 2016). A key opportunity for OMV when it comes to the supply chain and/or value chain is to supply refineries with innovative feedstock.

We identify the risks and opportunities stemming from climate-change-related issues and evaluate their impact on our business in the short, medium, and long term.

Climate-related business resilience and the energy transition

OMV aligns the boundaries and time horizons of its business strategy with the foreseen short-, medium-, and long-term risks and impacts of climate-related policies and energy sector developments. Scenarios consistent with the goal of limiting the global temperature increase to no more than 2°C by reducing greenhouse gas emissions are of utmost importance for our strategic considerations as they imply fundamental changes to the current energy market. We are aware of the potential risk of stranded assets if we cannot fully exploit our reserves due to surpassing the global carbon budget. During the strategy development and planning processes, OMV has taken into account scenarios reflecting various aspects of potential economic, technological, and social developments and their implications for the energy market and, consequently, for our business. The results of our analysis have shown what impact different national and international emissions targets will have on the passenger and freight fleet in Europe and OMV core markets. This influenced OMV's business objectives and strategy.

OMV currently still uses the International Energy Agency (IEA) Stated Policies (SP) Scenario, given that it incorporates current and announced (not yet fully realized) policies, targets, and plans. Based on the IEA SP Scenario, we projected the development of the oil and gas demand in Europe and in the OMV core markets up to 2025. The results of the analysis show an expected increase in petrochemical and jet fuel production volumes and a decrease in gasoline, diesel, and heating and fuel oil volumes. In general, according to the IEA SP Scenario, changing demand will lead to a less carbon-intensive fuel mix.

The IEA 450 Scenario and Sustainable Development Scenario[21] were used by OMV as a downside sensitivity option to determine how the existing and future OMV business portfolio would perform in such a business scenario.

OMV's inherent drive to contribute to a sustainable energy system – today and beyond – has already led to innovative and successfully implemented projects. In the interest of building on this strong foundation and enabling OMV to spearhead the energy transition toward a climate-friendly energy system, the Executive Board decided to establish the new function called New Energy Solutions (NES) in 2019. NES will focus on Group-wide portfolio management, an effective ideation and project maturity process as well as promoting an encouraging corporate culture. The Group-wide strategic aim of NES is to reduce the carbon footprint of OMV's existing business and in parallel to develop innovative energy solutions. This dual approach takes into account the expectations of political and public stakeholders while ensuring sustainable business success. It also secures OMV's social license to operate in line with the expectations of the Paris Climate Change Agreement.

We are taking the following steps to manage our portfolio to ensure that our business remains resilient even under stricter legislation and in view of a changing mix in global energy demand:

Increasing our focus on gas products

We are designing our product portfolio for lower carbon intensity stepping up our sales of natural gas, CNG and LNG, to be prepared for the growing demand for these products (for more details, see Focus on gas products and Focus on future mobility).

Increasing our focus on petrochemicals

We are increasing our focus on petrochemicals and exploring the suitability of plastic waste for producing synthetic crude on a commercial basis, thereby addressing key future trends, such as the circular economy. Substituting post-consumer plastics for crude oil is estimated to reduce CO_2 emissions by 45% and lower energy demand by 20% per t of the product (for more details, see Circular Economy).

Exploring opportunities for innovative low-carbon products and other solutions

We are researching alternative feedstocks and intensifying our focus on the production of sustainable biofuels by way of Co-Processing (for more details, see Biogenic Oil Co-Processing). The high degree of integration within OMV refineries reduces greenhouse gas emissions from Co-Processing by up to 85% compared with the EU standard for similar finishing steps for biofuels. In addition, we are researching and exploring new technologies, such as hydrogen solutions (for more details, see Hydrogen). Furthermore, we are looking into carbon reduction and abatement technologies, such as carbon capture, utilization, and storage (CCUS), and have started a CCS pilot project in Austria. We are also building up our own renewable power portfolio for captive use as a cost-effective way to decarbonize Scope 1 and 2 emissions. For example, OMV is building a photovoltaic plant in Austria, which will be the largest photovoltaic plant in Austria, generating 14,200 MWh of power annually.

21 The 450 Scenario takes into account policies which put the world on a path consistent with having around a 50% chance of limiting the global increase in average temperature to 2°C in the long term, compared with pre-industrial levels. The Sustainable Development Scenario – introduced by IEA for the first time in the World Energy Outlook (WEO) 2017 and derived from the UN Sustainable Development Goals – outlines an integrated approach to achieving internationally agreed objectives on climate change, air quality, and universal access to modern energy. (www.iea.org)

Setting an internal carbon price and including carbon reduction in financial steering

As early as 2015, we introduced an internal carbon price to test our investment decisions. Using the carbon price, we run sensitivity analyses of project financials with increased operating expenses (OPEX) from carbon costs. The internal carbon price allows us to factor the hypothetical carbon costs into our investment estimates and the engineering designs of projects. Such analyses protect the value of our new investments under future scenarios with increased carbon costs and increase business resilience to potential changes in climate-related taxes or trading programs. They also increase the transparency of additional economic incentives for carbon emissions reduction initiatives. The internal carbon price system is currently under review in terms of the internal carbon price levels applied and strategic management. In 2019, OMV introduced risk-adjusted return expectations in its financial steering model for carbon reduction projects as well as new energy solution projects.

Pursuing low-cost Upstream production with a gas focus

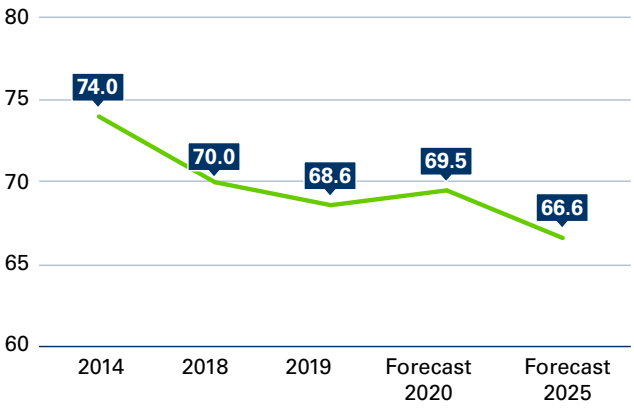
OMV's Upstream business generates profitable growth through its high-quality portfolio, while remaining focused on cash generation. Our current production mix is 57% gas and 43% oil. By 2025, the share of gas is projected to increase to more than 65%. Portfolio growth is achieved through acquisitions in low-cost, hydrocarbon-rich regions, as well as through organic exploration and investments. Our exploration focus is on near-field, short-cycle finds. Average production costs will be below USD 8/boe.

Operating an integrated value chain with flexibility

OMV operates international Upstream and Downstream assets. OMV's fuels and petrochemicals enable mobility, provide heat for living and working, and form the basis for a variety of plastics and high-end petrochemical products used every day. OMV's vertical integration establishes a strategic natural hedge against oil price volatility. OMV generates material and sustainable cash flows and has proven to be resilient in a volatile market environment. It also has the ability to capture attractive opportunities in two different segments as well as in various markets.

Carbon intensity of energy supply

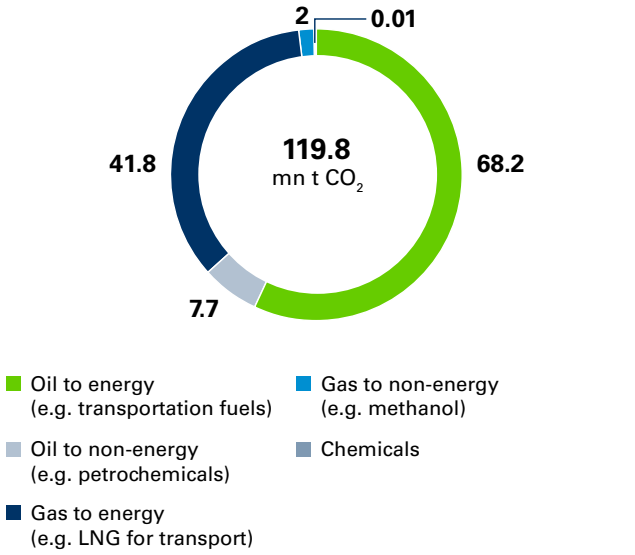
In gCO_2/MJ



The carbon intensity of energy supply is measured by assessing the intensity of their Scope 1 and 2 emissions plus Scope 3 emissions (in g CO_2) from use of sold energy products, against the total energy value of all externally sold energy products (in MJ).

GHG intensity of OMV product portfolio (Scope 3)

In mn t CO_2 equivalent



Carbon Efficiency of operations

Reducing emissions from operations is an important strategic target for OMV, demonstrating our commitment to this material sustainability topic. Our carbon efficiency agenda focuses on process optimization, energy efficiency, and delivering projects that reduce our direct GHG emissions.

Management of Carbon Efficiency of operations

Management of carbon efficiency in operations is incorporated into the sustainability governance process, as described in Sustainability governance. The Executive Board approves carbon-related goals as part of the Sustainability Strategy. It also approves the Health, Safety, Security, and Environment (HSSE) Strategy, which reflects climate change targets, such as zero routine flaring by 2030. The current Sustainability Strategy and HSSE Strategy are defined for the period up to 2025.

As we achieved our 2025 target ahead of schedule, we will define new targets in 2020.

Sustainability Strategy 2025 target

Reduce the carbon intensity of OMV's operations[22] by 19% by 2025 (vs. 2010)

Status 2019

- Reduction of 22% achieved by 2019 (vs. 2010)

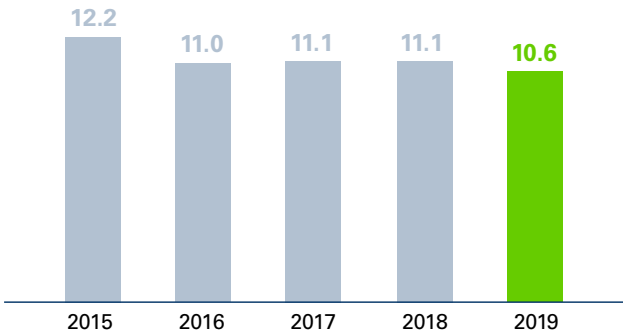
Action plan to achieve the target

- Upstream Business Segment phasing out routine flaring and venting
- Energy efficiency improvements in OMV Upstream and in refineries
- Fugitive methane emissions reduction through field modernization and integrity improvement measures in OMV Petrom Upstream

GHG emissions reduction in operations

In 2019, carbon dioxide (CO_2), methane (CH_4), and nitrous oxide (N_2O) emissions levels directly related to our operations (Scope 1) totaled 10.6 mn t CO_2 equivalent (2018: 11.1 mn t CO_2 equivalent). The other GHGs are not relevant to our business and therefore have not been included in our figures.

Scope 1 emissions



In 2019, we continued implementing greenhouse gas reduction projects with an annual reduction of around

22 CO_2 equivalent emissions produced to generate a certain business output using the following business-specific metric (Upstream: t CO_2 equivalent/toe produced, refineries: t CO_2 equivalent/t throughput, power: t CO_2 equivalent/MWh produced) consolidated into an OMV Group Carbon Intensity Operations Index, based on weighted average of the business segments' carbon intensity

154.5 kt CO_2 equivalent. All GHG reduction projects implemented in our operating countries between 2009 and 2019 have delivered a total reduction of 1.8 mn t CO_2 equivalent to date. Reduction of carbon intensity in operations is mainly due to the implementation of projects directed at the reduction of flaring and venting.

Routine flaring reduction efforts

Phasing out routine flaring is one of the essential steps toward combining resource efficiency with long-term economic success and a way to strongly support our efforts to reduce the carbon footprint of our operations. In 2019, OMV routine flaring was 501.4 mn m^3. In 2017, to reinforce our clear commitment to responsible resource management and sustainable business, we also endorsed the World Bank's "Zero routine flaring by 2030" initiative to end the routine flaring of associated gas during oil production by 2030. We report annually to the World Bank on our progress in adherence to this initiative.

New OMV oil and gas fields are developed and operated according to plans that incorporate sustainable utilization or conservation of the field's associated gas without routine flaring. Existing sites where routine flaring of associated and free gas still takes place are required to develop a phase-out plan to eliminate legacy routine flaring as soon as possible, but no later than 2030.

Many activities and projects to stop or reduce routine flaring have already been implemented or are ongoing, such as the Energy Efficiency Program in OMV Petrom Upstream. All OMV operations are required to minimize methane emissions from point sources as well as fugitive emissions and technically unavoidable emissions (such as well testing and well workover, among others). The main sources of methane emissions are routine/non-routine venting of gas during oil and gas production and processing as well as gas leaks.

Sustainability Strategy 2025 target

Achieve zero routine flaring and venting of associated gas by 2030

Status 2019

- The amount of hydrocarbons flared or vented in Upstream has been reduced by 37% vs. 2010.

Action plan to achieve the target

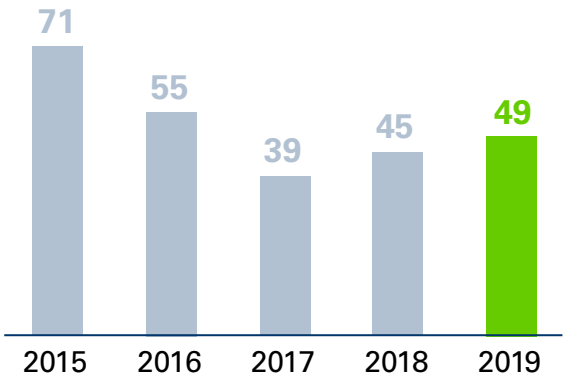
13 CLIMATE ACTION

- Prepare and approve routine flaring phase-out plans
- Continue with ongoing flaring and venting reduction projects
- Systematically monitor and report on GHG performance
- Report our progress on routine flaring phase-out in conjunction with OMV's commitment to the World Bank
- Main projects contributing to this target will be effective 2020 onward.

Methane emissions are monitored or estimated and controlled systematically by leak detection and repair programs. The identification of methane emissions sources serves as the basis for developing methane reduction projects in accordance with best practice in the industry and the best available technologies. Knowing the main potential sources of methane emissions also allows us to implement precautionary measures for preventing such emissions in new production assets.

Methane emissions

In kt



The minimum requirement for identifying leaks is conducting routine audio, visual, and olfactory inspections as part of daily operator rounds at all relevant OMV operating facilities. Leak detection also entails soap-bubble testing and optical gas imaging with defined scopes and intervals (annually or more frequently, as required in accordance with a related risk assessment). At some facilities, infrared cameras are also used for leak detection.

GHG emissions reduction in Upstream and in refineries

We implemented various activities in our Upstream and Downstream Business Segments directed at reducing GHG emissions. For example, significant reduction of venting and fugitive methane emissions is achieved in the OMV Petrom Upstream business thanks to modernization of transportation infrastructure, replacement, and optimization, which led to a significant reduction of accidental venting and also to the reduction of gas consumption (e.g., Merişani and Vâlcele compressor stations in the Muntenia Vest asset, gas networks monitoring in the Moesia asset, new production facilities in Mădulari in the Oltenia asset, improved gas pipelines infrastructure in the Crișana Banat and Muntenia Vest assets).

In refineries, optimal plant design is implemented in order to minimize flaring events by balancing the fuel gas system. Such advanced process control includes sufficient capacity of the flare gas recovery system, the use of high-integrity relief valves, and other economically viable organizational and control measures. As a result of such measures, we aim to use flaring as a safety system for other than normal operations, such as start-up, shutdown, emergency, process upsets, and others.

Upstream – gas treatment plant at Hurezani

Between 2010 and 2019, Upstream developed a centralized gas treatment hub in the Oltenia asset to serve domestic gas production in south-eastern Romania. The latest stage of the project started in 2017, amounted to EUR 50 mn, focused on the development of a new efficient gas treatment process – Centralized Hydrocarbon Dewpoint (CHD) Hurezani –, and also addressed the modernization of Compressor Station Hurezani Area 2. The project features the installation of gas treatment units and pipeline infrastructure, thus completing the overall gas compression and treatment chain. The facilities modernized in 2019 increase energy efficiency and reduce GHG emissions by around 9,230 t of CO_2 equivalent per year.

Indirect GHG emissions from electricity and heat

In 2019, our indirect (Scope 2) GHG emissions, which relate to purchased electricity and heat, accounted for only 0.3% of our total GHG emissions. Our Scope 2 emissions are primarily caused by the Upstream and Downstream Business Segments, both of which are energy intensive.

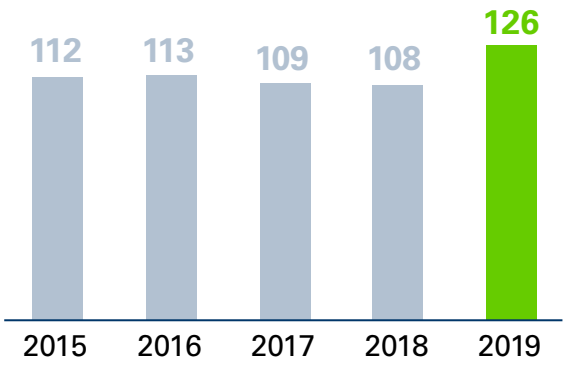
OMV is paving the way to reduce emissions from energy required for its operations and promote self-sufficiency of energy supply at our production sites, preferably with energy from renewable sources. We therefore committed to a strategic partnership with VERBUND – Austria's leading electricity company and one of the largest hydropower producers in Europe – aimed at evaluating and implementing power generation and power storage activities and power-to-X facilities. Our first joint project in this field is building Austria's largest ground-mounted solar park at the OMV site in Lower Austria. The solar park will provide 14.2 GWh of electricity, which is equivalent to powering 5,500 households a year. This will lead to saving 12,000 t of CO_2 per year. This agreement continues our cooperation with VERBUND that began in 2017, when OMV acquired a 40% stake in the e-mobility provider SMATRICS, in which VERBUND holds 40% and Siemens holds 20%. (For more details, see Electromobility.) Another important area of our cooperation is green hydrogen development – evaluating a possible electrolytic hydrogen production facility. (For more details, see Hydrogen.)

Carbon Efficiency of the product portfolio

In 2019, our Scope 3 emissions were around 126 mn t CO_2 equivalent (2018: 108 mn t CO_2 equivalent) and are related to total product sales volumes as well as purchased goods and services and capital goods of all our fully consolidated companies. While our absolute GHG emissions increased due to our business growth, our emissions intensity remained stable as we primarily grew our gas portfolio, with increased gas sales in Downstream as well as in Upstream due to the acquisition in New Zealand and SapuraOMV.

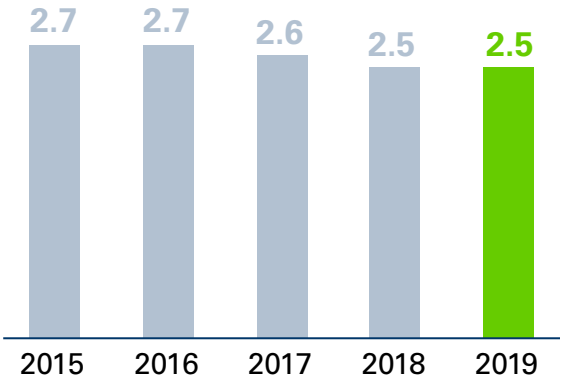
GHG Scope 3 emissions

In mn t CO_2 equivalent



GHG intensity of the product portfolio

In mn t GHG per mn t oil equivalent



About 87% of OMV's products are directly used for combustion. Scope 3 emissions from the use and processing of our products as well as from purchased goods and services and capital goods therefore constitute around 92% of our impact in terms of GHG emissions.[23]

The development of low-carbon products to reduce this large impact therefore is a topic material for stakeholders and for OMV. In this regard, we have developed strategic targets to reduce the carbon footprint of our product portfolio.

Responsible use of natural resources means not only producing and processing them efficiently but also maximizing their value for society. For crude oil, this translates into finding long-lasting high-tech applications for hydrocarbons rather than burning them as a fuel. It is OMV's ambition to strengthen its European downstream position through a shift to higher-value-added products, such as petrochemical products. (For more information on the activities of OMV in the petrochemical sector, see Focus on petrochemicals.)

Management of Carbon Efficiency of the product portfolio

The OMV Strategy team and subject-matter experts analyzed decarbonization policy developments and stricter emissions standards across the globe and determined that this will lead to the flattening of demand for oil products in the long term. OMV aligns the product portfolio business strategy with such forecasted developments. For example, European demand for natural gas will likely overtake demand for oil in relative and absolute terms by 2030, while regional hydrocarbon extraction is expected to decline. This caused us to focus on preparing the required infrastructure for natural gas delivery and capturing a greater share of natural gas supply.

At the same time, another trend – road transportation decarbonization – led OMV to increase its focus on fuels that function as an alternative to oil and gas. OMV's Future Mobility team continuously analyzes developments in the alternative transportation sector and develops risk mitigation measures to prepare the Company for a transition to non-hydrocarbon fuels by exploring further development of electromobility and hydrogen.

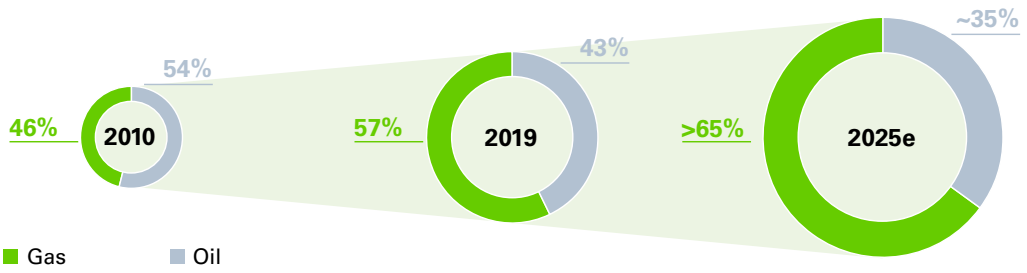
23 We take into account the impact of the products sold by OMV to external customers and on the market. Intracompany sales between OMV subsidiaries are not taken into account in order to avoid double-counting GHG emissions from products and services.

Sustainability Strategy 2025 target	Reduce the carbon intensity of OMV's product portfolio[24] by 4% by 2025 (vs. 2010)
Status 2019	▸ Reduction of 4% achieved by 2019 (vs. 2010)
Action plan to achieve the target	▸ Reduce the carbon footprint of OMV's product portfolio by increasing the gas-to-oil ratio in Upstream production, increasing gas sales in Europe, and shifting to higher-value-added petrochemical products, which in combination with recycling of the plastics used will increase resource efficiency

Focus on gas products

Worldwide demand for gas is anticipated to continue to grow beyond 2030. The phase-out of coal and nuclear power in the electricity sector will increase demand for safer and more climate-friendly gas in the European market. Therefore, OMV has been consistently increasing the share of natural gas in production and aims for gas to account for more than 65% of the production portfolio and for increased natural gas sales in Europe. Through this emphasis on natural gas, the fossil fuel with the lowest carbon intensity, OMV can reduce the carbon intensity of our energy system today and enhance the viability of operations in the long term.

Production split



In 2019, gas production accounted for 57% (2018: 57%) of total Upstream production. Gas production amounted to 101.8 mn boe in 2019 (2018: 89.5 mn boe).

In 2019, the Larak gas development project came on stream in Malaysia, and the Nawara gas development and pipeline project in Tunisia is scheduled to start production in 2020. The divestment of the Maari field shifts OMV in New Zealand to a gas-only producer and reduces emissions from Upstream operations by 280,000 t CO_2 equivalent per year. This reinforces OMV's strategy to place the focus on natural gas production rather than oil.

Total gas sales in Downstream Gas amounted to 136.7 TWh (2018: 113.8 TWh). OMV increased its market share in Germany to 4%, with plans to achieve 10% by 2025. We also started gas sales activities in the Netherlands and reached a market share of 2% in 2019.

OMV actively advocates for the increased use of gas in power generation and mobility in the transition phase. Replacing lignite-fired power plants with gas reduces CO_2 emissions by 50%. For example, OMV Petrom's combined-cycle gas-fired power plant in Romania produced 1.26 mn t of GHG emissions emissions in 2019. If it were lignite fired,

24 The carbon intensity of OMV's product portfolio measures the CO_2 equivalent emissions generated by the use of OMV's products sold to third parties in t CO_2 equivalent/toe sold.

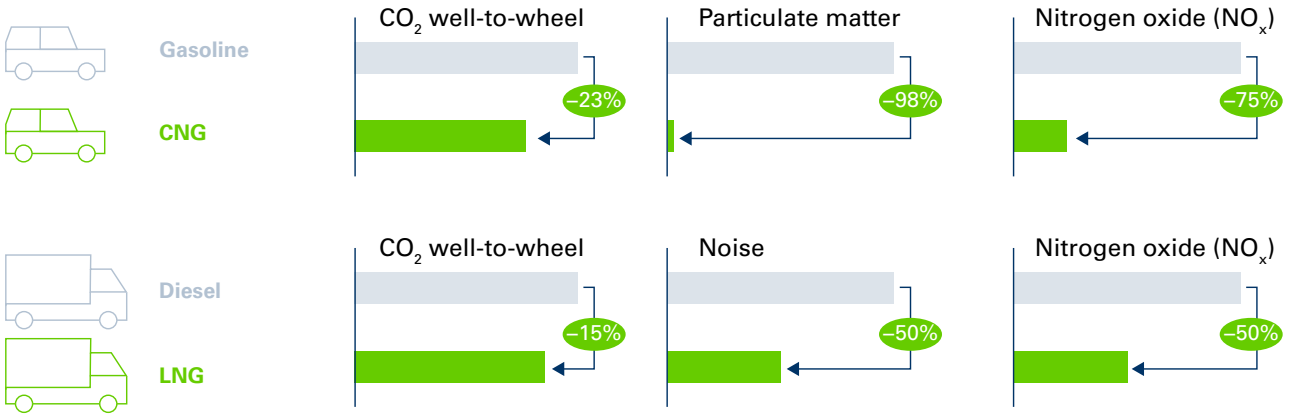
it would have produced 2.5 mn t of GHG emissions instead.

Liquefied Natural Gas (LNG) is currently the only available alternative fuel for long-distance trucks, buses, and ships. Natural gas vehicles (NGVs) provide a cleaner mobility alternative with up to 23% less CO_2, 75% less nitrogen oxide, and 98% fewer particulate emissions.

Gas (natural gas, biomethane, hydrogen, and synthetic methane) supports the integration of renewable energies. That is why OMV is actively exploring options with partners for taking the key power-to-gas technology to an industrial scale. With power-to-gas, wind and solar energy can be stored as hydrogen, and sector coupling becomes a reality. Separate gas and electrical grids have the potential to become one energy cloud with fluid transitions.

Since natural gas is a clean, safe, and readily available alternative fuel for transportation, OMV is assessing the options for intensifying its gas-mobility activities (for more details, see Focus on future mobility).

Emission savings with natural gas (CNG and LNG) vs. gasoline and diesel (Euro 6)



Sources: thinkstep, EMPA, Volkswagen, Equilibre

In 2019, we began offering our customers the option of procuring climate-neutral gas. Through our cooperation with Climate Partner, we are able to offer our customers a carbon-offsetting service for emissions generated during the consumption of gas. In 2019, we were able to offset approximately 30,000 t of CO_2 thanks to climate-neutral gas contracts for upcoming delivery years. We have defined a rigorous set of criteria and standards for the selection of climate protection projects to ensure optimal emissions offsetting verification. For instance, the technologies we selected for climate protection in our projects are wind power and forest protection. Climate protection projects are verified according to the internationally recognized standards for voluntary emissions reduction, the Verified Carbon Standard (VCS) and the Gold Standard (GS).

OMV operates gas infrastructure (pipeline and storages) in Austria and Germany which are essential for ensuring the security of supply in our markets. The gas infrastructure will also play an essential role in cost-effectively making the shift toward carbon-neutral gas solutions (synthetic gas, biomethane, and hydrogen) and an integrated energy system.

Natural gas is an important alternative as a lower-carbon fuel for industry. However, industrial users also value the gas provided by OMV for the security of supply. For example, NÖM, a large Austrian producer of dairy products, uses gas supplied by OMV for generating steam used for heating up fresh milk in the pasteurization process. Gas provides a great lower-CO_2 alternative to coal- or oil-heated steam boilers. With a processing capacity of 1.2 mn liters of milk a day (45% of which ends up in products that are exported), NÖM needs an uninterrupted supply of gas. NÖM is confident that it can rely on OMV to supply its gas.

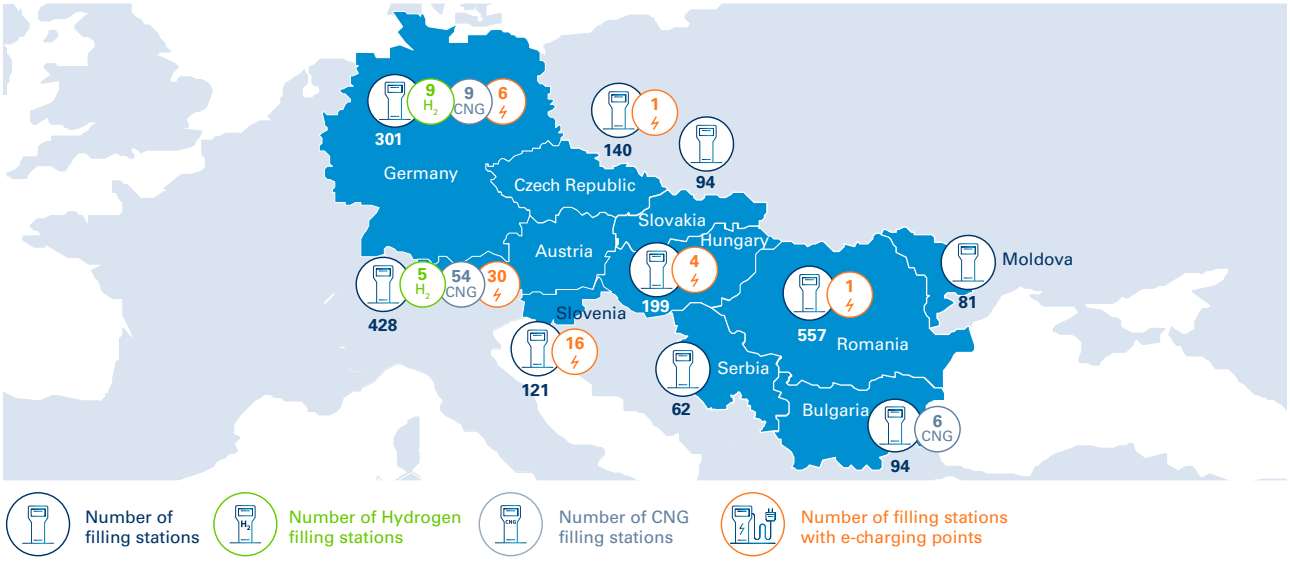
In total, OMV invested EUR 295 mn in the development of gas assets in 2019 (2018: EUR 198 mn).

Focus on future mobility

OMV provides various solutions suited to different types of transportation, including successfully reducing CO_2 emissions for short-distance passenger transportation as well as for long-haul heavy-duty transportation. Whereas battery-powered electric vehicles present a suitable option in the first case, natural gas and hydrogen would present a more efficient option for the latter. Directly and through its partnerships, OMV offers a number of options for lower-carbon transportation, electricity, compressed natural gas (CNG), liquefied natural gas (LNG), and hydrogen. In 2019, OMV invested EUR 1 mn (2018: EUR 1 mn) in future mobility assets.

- 14 hydrogen filling stations in Europe, thereof five in Austria
- In 2018, OMV and IONITY opened Austria's first four 350 kW charging stations. The aim is to build a network of 350 kW ultra-fast charging stations throughout Europe. In 2019, nine new stations were equipped with high-power charging infrastructure from our regional partners.
- 69 CNG filling stations in Europe, thereof 54 in Austria
- First LNG filling station planned for 2020

Retail



As at January 2020

Electromobility

Currently, 201 e-charging points are available at 58 OMV filling stations in Austria, Germany, Hungary, Romania, and Slovenia. Around 300 charging points at 150 additional locations are planned to be rolled out in 2020. We continue to develop our charging network via numerous partnerships and joint ventures. Through our 40% interest in SMATRICS, Austria's leading e-mobility infrastructure provider, OMV is part of a SMATRICS-operated network of more than 435 e-charging points, powered 100% by renewable energy. By way of our strategic partnership with IONITY – a joint venture of car manufacturers – we support the construction of a network of 350 kW ultra-fast charging stations throughout Europe, with 13 already opened in Austria. In 2019, we started rolling out 150 kW electric vehicle charging at OMV filling stations in southern Germany in cooperation with EnBW Energie Baden-Württemberg AG, one of the leading energy providers in Germany. OMV intends to take its commitment to electric vehicles to the next level by continuing to develop its e-mobility offerings. International roaming will be activated on the OMV ROUTEX e-mobility card, and customer-focused development of additional products will continue.

Compressed Natural Gas (CNG)

OMV is promoting CNG and LNG products on the supply and on the demand side at the same time. This approach establishes suitable infrastructure on the supply side as well as customer readiness to receive the product. Such an approach is the precondition for the successful implementation of new energy solutions, leading to the development of related products and the reduction of production costs.

In 2019, our CNG sales volumes grew by 4.6%, to 1,954 t (2018: 1,868 t).

OMV will invest up to EUR 10 mn in the CNG network, with plans to upgrade the existing dispensers and expand the network in accordance with customer needs. This investment will extend the current OMV network of 54 CNG filling stations in Austria. We are also in the process of changing our fleet of company cars to CNG vehicles.

In 2019, Rainer Seele and Hans Peter Schützinger, CEO of Porsche Holding Salzburg, announced a joint effort to put more CNG on the road. Together, OMV and Porsche Holding are offering a special deal for those considering a CNG vehicle: Every buyer of a CNG-powered model of one of Volkswagen's brands (VW, Audi, SEAT, or ŠKODA) can fill up with CNG for free at OMV filling stations for the entire first year.[25] We believe that this initiative will increase popularity of CNG-fueled vehicles, and thus promote the transition to lower-carbon fuels.

Liquefied Natural Gas (LNG)

According to the analysis by the Natural & bio Gas Vehicle Association (NGVA Europe) and the European Biogas Association (EBA), which published the Roadmap to 2030, LNG trucks are expected to increase to 280,000 in Europe by 2030. The growing popularity of this fuel is attributable to the benefits of lower CO_2 and particulate matter emissions as well as less noise. We are preparing to expand the requisite infrastructure and supply of LNG in order to meet future expected demand.

In 2019, OMV signed a memorandum of understanding (MoU) with Snam and TAG on collaboration in the field of sustainable LNG mobility. The MoU lays out the intention to jointly explore potential opportunities in the field of sustainable LNG mobility in Austria, such as the construction of a small-scale LNG liquefaction plant, the framework for a later LNG supply agreement, and the development of an LNG market.

In Turkey, OMV already holds a significant share in the small-scale LNG business, supplying around 400 customers.

Hydrogen

With five hydrogen fuel stations in Austria, OMV is the first company to offer nationwide coverage. We also have nine hydrogen fuel stations in Germany. We are a shareholder in H_2 MOBILITY Deutschland GmbH & Co. KG, which intends to build a filling station network enabling travel with hydrogen-fueled vehicles throughout Germany by 2023. In 2020, there will be 100 stations operating. OMV will continue to conduct pilot projects with industry partners in order to develop a business model for the cross-sector use of hydrogen gas (H_2). The aim is to establish hydrogen as a pathway for carbon-neutral mobility, in particular in the freight and public sectors. We will also advocate for the use of H_2 for balancing the electricity grid in view of the increasing strain from intermittent renewable electricity sources. Currently, OMV is engaged in several pilot projects, including the UpHy project, which involves the production of hydrogen for use in the mobility sector and in the refining process.

25 Valid for annual mileage of 15,000 km; offer valid until revocation

Focus on petrochemicals

Responsible use of natural resources means not only producing and processing them efficiently but also maximizing their value for society. For crude oil, this translates into finding long-lasting high-tech applications for hydrocarbons rather than burning them as a fuel. Products that are made on the basis of petrochemical products, such as ethylene, propylene, and butadiene, are largely used in our daily life.

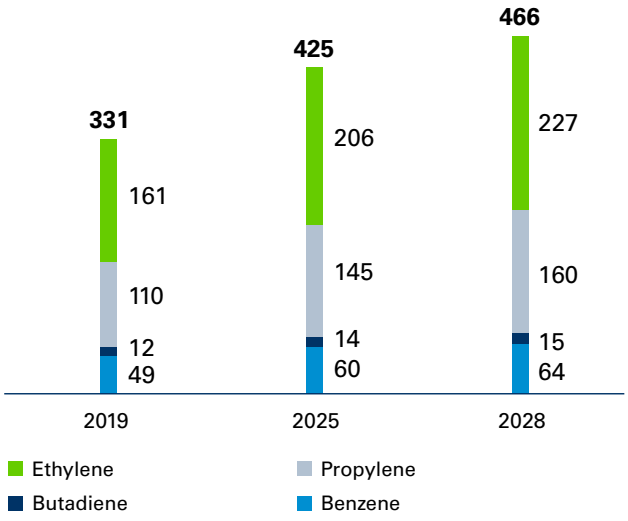
It is OMV's ambition to strengthen its European downstream position through a shift to higher-value-added products, such as petrochemical products. This move, in combination with recycling of post-consumer plastics, is an important way to make better use of valuable natural resources.

OMV operates two petrochemical sites – Burghausen (Germany) and Schwechat (Austria) – with a total annual capacity of 2.5 mn t, out of which 80% is olefins. OMV produces olefins, aromatics, and butadiene at its major integrated production sites in Schwechat and Burghausen, as well as a small volume of aromatics and propylene in Petrobrazi (Romania).

Economic development will drive a significant increase in the demand for petrochemical products. Demand for olefins, such as ethylene, propylene, butadiene, and benzene, are expected to increase by 41% by 2028.

Global petrochemical demand

In mn toe



Source: IHS – Chemical Supply & Demand (2019)

OMV's Downstream refining segment can maximize on this opportunity by providing the feedstock for high-quality petrochemical products. Petrochemicals already make up more than 10% of OMV's total refined product sales. OMV mainly produces ethylene and propylene, which are further converted into polyethylene and polypropylene at Borealis, a company in which OMV is a shareholder. By 2025, OMV plans to increase the production of petrochemicals in Europe by 12%, bringing it to 2.8 mn t. Increasing the share of petrochemicals in our product portfolio will reduce its carbon intensity, as the use of petrochemical products does not produce CO_2 emissions in contrast to the use of combusted fuel products. In 2019, petrochemicals sales volumes amounted to 2.34 mn t (2018: 2.41 mn t).

In 2019, OMV invested EUR 35 mn (2018: EUR 17 mn) in petrochemical assets. Notably in 2019, we made the decision to invest EUR 64 mn in the construction of an ISO C4 plant. Construction of the new plant began in summer 2019 at the Burghausen refinery, with operations planned to start in September 2020. From this point onward, high-purity isobutene will be produced in Burghausen using a brand-new technology. This will be a highly energy-efficient process, enabling CO_2 emissions savings of 20,000 t (based on an annual production of 60,000 t isobutene). Isobutene is part of the C4 hydrocarbons group and is produced from crude oil components by means of thermal cracking. The isobutene produced will complement the current OMV product portfolio and will be used for manufacturing glues, grease, and other chemicals, such as antioxidants, as well as in the manufacturing of vitamin C.

OMV owns a 36% share in Borealis – a leading provider of polyolefins, which form the basis of many valuable plastic applications. The partnership between OMV and Borealis for the petrochemical integration of OMV refineries goes back as far as 1998. We share an industrial site in Schwechat (Austria), which is one of the largest integrated plastics production sites in Europe. The OMV Schwechat refinery operates integrated petrochemical production facilities and supplies Borealis with petrochemical feedstock. OMV produces mainly ethylene and propylene, which are further converted into polyethylene and polypropylene at Borealis. Thus, Borealis constitutes an important part of the OMV value chain. Since 2016, Borealis has acquired two recycling plants in Germany and Austria, thus incorporating recycling capabilities into its business activities. Through the exploration of synergies, OMV supports plastics collection and recycling activities.

Oil as a raw material: premium materials and components for important petrochemical products used in everyday life

Use of petrochemicals

Transportation

Automotive, aerospace, rail, marine, lightweight

Construction

Piping and cabling, insulation

Health care

Hearing aids, prosthetics, plastic pill capsules

Electronics

Efficiency, lightweight, fire safety, electrical and mechanical resistance

Energy

Efficient insulation, renewable energy

Packaging

The lightest packaging material, food, conservation and preservation, convenient and innovative, safe and hygienic

Focus on product responsibility

OMV assumes responsibility for delivering safe high-quality products. At the same time, we continuously work on exploring ways to reduce our environmental impact during our product life cycle. We take a comprehensive approach to product stewardship, with technologically advanced solutions used to deliver safe top-quality products, while taking action to ensure responsible use of our products.

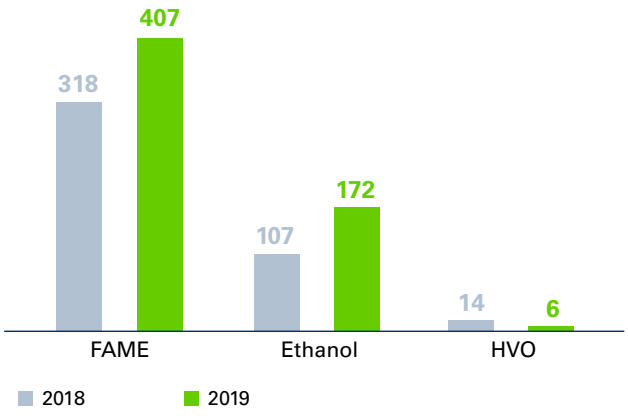
We have established adequate processes and workflows to secure our compliance with the EU regulations on Registration, Evaluation, and Authorization of Chemicals (REACH) and on Classification, Labeling, and Packaging (CLP) of substances and mixtures. Within this continuously evolving regulatory environment, we are committed to maintaining and updating our mandatory registrations so as to keep up with relevant regulatory developments. To this end, we closely follow the guidance published by the European Chemicals Agency and participate in the REACH consortia (Concawe, Lower Olefins and Aromatics, Fuel Ethers, Renewable Fuels, etc.) as well as in working groups through oil and chemical industry trade associations. Safety data sheets are available on www.omv.com/en/products/online-tools/product-information. These documents are regulated under REACH and include comprehensive information on potential health, safety, and environmental issues. In addition, they inform customers and employees about how to handle and use our products safely.

OMV works in close collaboration with leading automobile manufacturers, research institutes, and universities to stay at the forefront of fuel technology. Our MaxxMotion premium fuels provide maximum power to vehicles, prolong engine life, and contribute to lowering emissions. Our MaxxMotion100-octane gasoline fulfills the highest fuel quality requirements in accordance with the Worldwide Fuel Charter, the guideline issued by major automobile and engine manufacturers' associations. MaxxMotion diesel ensures reliable engine operation even at extremely cold temperatures down to –40°C.[26]

Biofuels

Biofuel volumes[27]

In kt



All biofuel volumes purchased by OMV in 2019 and used for blending meet the requirements of the EU's Renewable Energy Directive (2009/28/EC). Since 2013, the ISCC-EU certificate issued for OMV Refining & Marketing GmbH has been renewed on an annual basis. OMV Petrom, OMV Hungary, OMV Czech Republic, and OMV Slovenia are also certified according to the ISCC-EU standard. OMV purchases biodiesel (FAME) mainly to add to fuels from European producers that use very little palm oil. In 2019, biofuels contained only around 4.22% palm oil. Certain biofuels are almost exclusively available with palm oil as feedstock. However, ISCC standards enforce that no deforestation on certified areas has taken place since January 2008 for biodiesel generation. Even so, we plan to increase the use of regional rapeseed oil and used cooking oil as well as other potential waste and advanced feedstock, which is made possible by the use of our Co-Processing technology. (For more details, see Biogenic Oil Co-Processing.)

In 2019, OMV and AustroCel Hallein GmbH signed a multi-year agreement to supply advanced bioethanol. The fuel components will be derived exclusively from spruce-based cellulose, which is a scrap material from the sawmill industry. The sustainable base of these fuel components leads them to be classified as "advanced biofuels." In future, they will be added to OMV gasoline. This product will contribute to reducing the carbon intensity of the OMV product portfolio and thereby help us meet the OMV 2025 Sustainability Goals.

OMV aims to market its products in a responsible manner by engaging consumers in lowering greenhouse gas emissions. We therefore partnered with a large transportation company, Scania Romania, with the goal of raising awareness about the most efficient methods for reducing the consumption of fossil fuels.

climate neutral

Climate-neutral products

In 2019, we began offering our customers the option of procuring climate-neutral gas. Through our cooperation with Climate Partner, we are able to offer our customers a carbon offsetting service for emissions generated during the consumption of gas. In 2019, we were able to offset approximately 30,000 t of CO_2 thanks to climate-neutral gas contracts for upcoming delivery years. We have defined a rigorous set of criteria and standards for the selection of climate protection projects to ensure optimal emissions offsetting verification. For instance, the technologies we selected for climate protection in our projects are wind power and forest protection. Climate protection projects are verified according to the internationally recognized standards for voluntary emissions reduction, the Verified Carbon Standard (VCS) and the Gold Standard (GS). We plan to gradually expand the offsetting option to further OMV products.

26 CFPP value according to EN 590
27 2018 figure restated and 2019 figure estimated as both Austria and Germany data are based on year-to-date actuals plus a forecast for the remaining months each year, given that the final biofuel volume confirmation from authorities of a given year is not before the publication of the Sustainability Report.