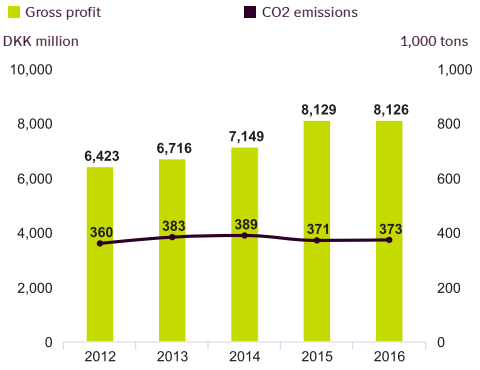
7.1 Climate change

Climate change and its associated impacts pose multiple risks to Novozymes' supply chain and operations, including regulatory action and physical or reputational damage. At the same time, increasing demand for low-carbon products and solutions offers further opportunities for Novozymes to grow its business. That is why mitigating climate change impacts remains high on Novozymes' agenda. Novozymes' approach to managing climate change impacts is well integrated into its business strategy and targets, and can be seen in its position paper on climate change. Several departments work closely together to influence the climate change agenda and drive performance, both inside and outside the organization.

Gross profit vs. CO2 emissions (scope 1+2)



Novozymes' CO_2 intensity reduction target is an indicator of its efforts to make operations less carbon intensive. In 2016, Novozymes' CO_2 emission intensity reduction was 16%, falling short of the 20% target, primarily due to slower-than-expected gross profit development.

Novozymes strives to implement various energy efficiency projects that make its operations less carbon intensive. In 2016, effort was put into identifying a strong pipeline of projects that will help Novozymes achieve its 2020 CO_2 target. A key component of these projects will be ensuring that best practices are shared and implemented globally, across production plants.

! CRITICAL ACCOUNTING ESTIMATES AND JUDGMENTS

Novozymes uses LCAs to estimate the CO_2 emissions that customers avoid by using Novozymes' products in their processes or products. A calculation methodology to consolidate the LCAs has been defined and consistently applied, but the individual LCAs depend on assumptions and estimates, which means that the result of the calculation will be an approximation.

§ ACCOUNTING POLICIES

The estimated reduction in CO_2 emissions resulting from customers' application of Novozymes' products is based on annually updated life cycle assessments (LCAs) of Novozymes' products. The LCAs are prepared and updated by Novozymes and subject to assumptions and estimates.

Reported CO_2 emissions comprise scope 1, scope 2 and emissions from outbound transport of products.

CO_2 from internally generated energy (scope 1) is calculated based on the amount of fuel consumed, using local emission factors.

CO_2 from externally generated energy (scope 2) is reported in accordance with both the market-based and the location-based method, as defined by the Greenhouse Gas (GHG) Protocol. The location-based method uses annually determined local emission factors from power plants or their organizations. If emission factors are not available, annually determined emission factors from Danish authorities and suppliers are used.

Transport-related CO_2 emissions (scope 3) are calculated based on principles described in the GHG Protocol. Reported quantities comprise CO_2 emissions related to transport from all primary enzyme production sites to the customer where Novozymes pays for the freight. Transport between production sites is also included. Transport of raw materials to a production site is not included. CO_2 emissions generated at external warehouses are not included. Emission data are calculated based on distance and emission factors from the GHG Protocol.

The environmental impact potentials for global warming and ozone layer depletion are calculated on the basis of data published by the US Environmental Protection Agency (EPA) and the Montreal Protocol published by the United Nations Environment Programme (UNEP).

CO_2 intensity is measured as CO_2 emissions (scope 1+2) less emissions from energy offset by green energy produced from Novozymes' waste (i.e. net emissions added by Novozymes' processes), divided by gross profit. The intensity reduction is calculated as the relative improvement in intensity compared with the base year (2014).

For sites acquired in 2015 or later, the baseline index is calculated based on the data reported in the first full year of operating as a Novozymes site. Divested sites are removed from the index for the full period. Newly constructed sites are included from the first quarter after qualification.

7.1 Climate change (continued)

CO_2-equivalent emissions

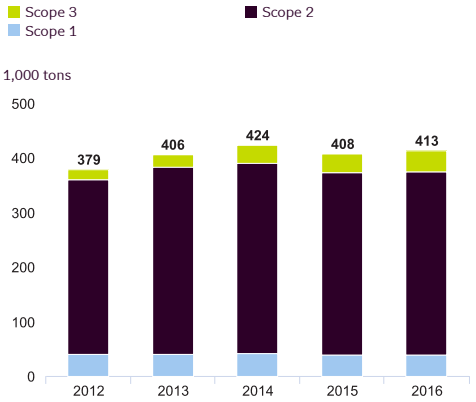
1,000 tons	2016	2015
Natural gas	38	36
Gas oil, light fuel oil and diesel oil	-	1
HCFCs	1	2
Scope 1	**39**	**39**
District heat	8	9
Electricity	258	259
Steam	69	66
Scope 2 (market-based)	**335**	**334**
Ship	5	6
Truck	17	14
Air freight	17	15
Scope 3	**39**	**35**
Emissions, total ESG	**413**	**408**

Market-based vs. location-based scope 2 emissions

1,000 tons	2016	2015
Scope 2 CO_2 emissions (market-based)	335	334
Scope 2 CO_2 emissions (location-based)	389	414

In accordance with the Scope 2 Guidance from the GHG Protocol, scope 2 CO_2 emissions must be reported in two ways, referred to as a location-based and a market-based method. At Novozymes, market-based reported CO_2 emissions differ from location-based emissions for emissions from electricity purchased at all Danish sites. This electricity comes from wind farms and makes up approximately 22% of total energy consumed.

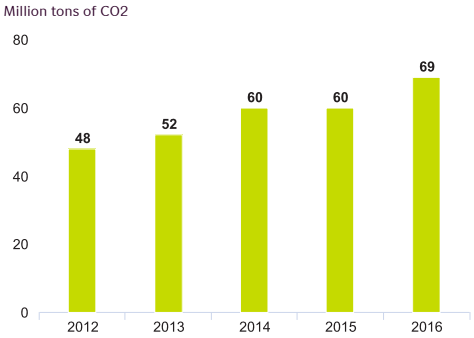
5-year GHG emissions by scope (CO2 -eqv.)



7.1 Climate change (continued)

The application of Novozymes' products enables customers and end consumers to reduce CO_2 emissions by lowering energy, water, raw material and chemical consumption in their operations compared with using conventional technologies. Novozymes' SAVE target measures the net positive CO_2 impact of Novozymes' products on society. Novozymes' customers avoided an estimated 69 million tons of CO_2 emissions by applying its products in 2016, meeting the target for the year. The annual savings achieved are equivalent to taking approximately 30 million cars off the road.

Estimated annual CO2 savings



Since 2004, Novozymes has conducted peer-reviewed life cycle assessment (LCA) studies to document the environmental impact of its biosolutions, covering the entire life cycle of these products from cradle to grave. Results are used to show customers and partners ways to reduce their CO_2 emissions and leverage the positive impact on climate change made possible by Novozymes' products. To learn more, please see Novozymes' approach to LCA.

In 2016, a life cycle assessment was carried out for the application of RONOZYME® HiStarch (an amylase) in chicken feed in Brazil. The study was externally reviewed in accordance with ISO 14040. RONOZYME® HiStarch improves the digestibility of starch, allowing farmers to change the composition of feed ingredients and reduce the demand for fat, which is the most expensive ingredient. The fat saved can be used for biodiesel production, thereby reducing fossil diesel combustion, or to replace vegetable oils.

Novozymes is the founding member of the Sustainable Bioenergy Group (SBG) of the Sustainable Energy For All (SE4ALL) initiative. The SBG aims to identify opportunities and deliver sustainable solutions for bioenergy, focusing on emerging markets and rural communities in developing countries. Read more about Novozymes' position on biofuels. In 2016, Novozymes became one of the founding members of Below50, an initiative launched by WBCSD in partnership with RSB (Roundtable for Sustainable Biomaterials) and the United Nations Sustainable Energy For All (Bioenergy Accelerator) initiative under the Low Carbon Fuels workstream to promote low-carbon transport fuels. Read more in Issue-based and sector initiatives in the Communication on Progress.

Novozymes has a strong tradition of transparent reporting of its climate change impacts and submits its climate change performance data to recognized platforms, including CDP (formerly Carbon Disclosure Project) and RobecoSAM's Dow Jones Sustainability Index.