

Environmental data

7.2 Energy

Novozymes' biosolutions enable customers to save energy. Furthermore, with growing constraints on global energy reserves, continuously optimizing the energy used in its operations is material to Novozymes.

Novozymes' approach to operational energy management is based on two levers: improving energy efficiency in production by optimizing processes and implementing energy-saving projects, and increasing the sourcing of energy from renewable sources. Targets for energy efficiency and renewable energy drive overall energy performance. For more information on targets, please refer to the Targets section.

Novozymes' Supply Operations and Sourcing departments manage and monitor all energy efficiency and renewable energy sourcing efforts.

In 2016, Novozymes achieved a 10% improvement in energy efficiency compared with 2014. This was short of the 2016 target of 18%, primarily due to slower-than-expected gross profit development.

Furthermore, Novozymes' anaerobic digesters faced operational challenges globally, and site teams are therefore working to optimize their operations. In 2016, total energy from renewable sources accounted for 24% of the

total energy consumed. The majority of the renewable energy came from the Horns Rev II wind farm in Denmark.

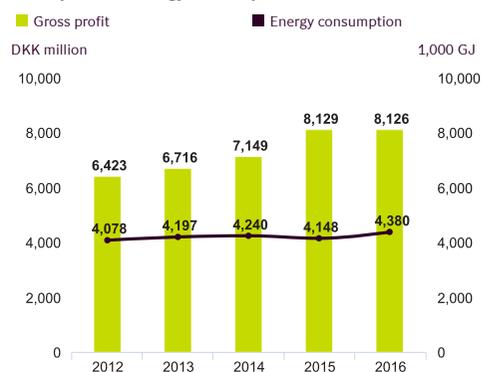
In 2016, Novozymes became a silver member of the Business Renewables Center (BRC) community. BRC is a member-based platform that focuses on streamlining and accelerating the process of procuring large-scale wind and solar energy.

Going forward, Novozymes will focus on replicating the best energy-saving projects globally to help achieve the 2020 energy efficiency target.

Energy consumption by primary source

1,000 GJ	2016	2015
Natural gas	691	661
Biogas	55	24
Gas oil, light fuel oil and diesel oil	5	11
Internally generated energy, total	751	696
Electricity - conventional	1,636	1,525
Electricity - renewable	967	949
District heat - conventional	156	160
District heat - renewable	9	11
Steam	861	807
Externally purchased energy, total	3,629	3,452
Energy consumption, total	4,380	4,148
Energy production from waste	72	77

Gross profit vs. energy consumption



7.2 Energy (continued)

§ ACCOUNTING POLICIES

Net energy consumption includes quantities consumed both in the production process and in other areas, less energy production from Novozymes' waste.

Internally generated energy is measured as fuel consumption converted to energy based on the lower combustion value and weight by volume, except in the US, where legal requirements for reporting of CO₂ state that the higher combustion value is to be applied. Fuel consumption comprises all types of fuels used to produce electricity, heat and steam on site and is converted to energy using factors supplied by utility providers or local authorities. Fuel for transportation is not included.

Externally generated energy is the input

to Novozymes of externally generated electricity, heat and steam.

Energy produced from waste or wastewater is renewable and amounts to the total energy (heat, electricity or steam) produced by an internal or external utility provider. An example is energy produced from biomass waste or biogas.

Reported quantities are based on meter readings, with the exception of steam, which may be subject to calculation.

Energy efficiency is measured by dividing net energy consumption by gross profit. The efficiency improvement is calculated as the relative improvement in efficiency compared with the base year (2014).

The quantities used in the calculation correspond to those reported as net energy

consumption, i.e. purchased energy less energy produced from Novozymes' biomass waste.

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.

The renewable energy percentage is calculated by dividing consumed renewable energy by total energy consumption. Renewable energy used at Novozymes sites comprises energy that is generated from natural processes and continuously replenished. Sources include solar, wind and hydro power-based electricity and energy from biogas.