

Distinctive features of BioWanze

A climate-friendly energy concept

The use of bran (wheat husks), biogas and fusel oil, another by-product of distillation, guarantees an independent energy supply for the site. Thanks to a one-of-a-kind biomass power plant, **BioWanze supplies most of its own energy**, feeds green power into the public grid and guarantees bioethanol production with a reduction in CO₂ emissions of approximately 70% compared to fossil fuels.

Innovative products

Thanks to an integrated production, BioWanze also uses raw material components which are not used for the bioethanol production. The company produces and markets products of high quality and utility for the food and animal feed markets and creates high-quality, sustainable products for agriculture: Gluten, ProtiWanze®, bran and fertiliser. BioWanze follows an exemplary “**zero-waste**” policy.

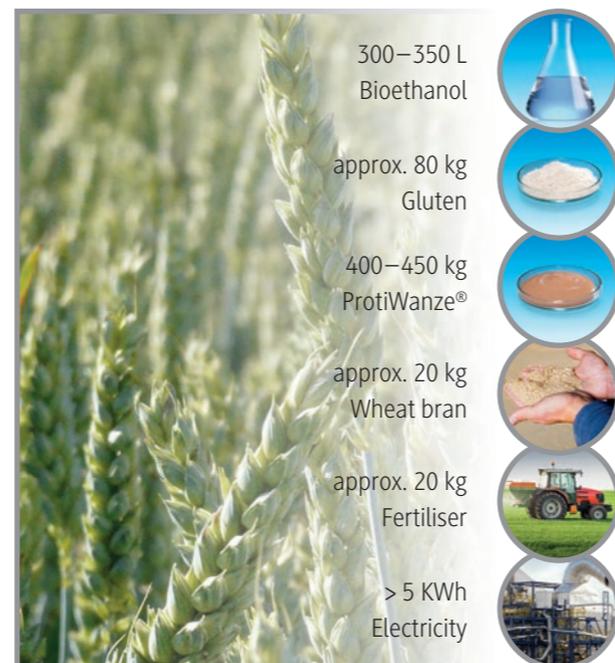


An ideal strategic location

With direct access to the river Meuse and the major ports of Antwerp-Rotterdam-Amsterdam (ARA) in the immediate vicinity, BioWanze prefers to use ship transport. Being located in a region where grain and sugar beet are cultivated also enables raw materials to be procured from within a small geographic radius. These location-specific logistics contribute to increased sustainability.

Raw materials & products

BioWanze makes full use of the raw materials wheat and sugar beet. 1000 kg grain produces:



BioWanze – The next generation



BioWanze at a glance

- The most important manufacturing site for bioethanol (an environmentally friendly substitute for petrol) in Belgium
- Innovative production process reducing greenhouse gas emissions by 70% compared to fossil fuels
- Raw materials: approximately 400,000 tonnes of Belgian sugar beets and more than 750,000 tonnes of wheat from Belgium and neighbouring countries each year
- Full utilization of the raw materials thanks to a variety of co-products
- Annual production capacity:
 - 300,000 m³ bioethanol
 - 55,000 tonnes gluten
 - > 350,000 tonnes ProtiWanze®
 - Wheat bran (GMP+)
 - Green power
- 123 jobs and several hundred indirect jobs in the region. This way, BioWanze successfully integrates into a rural region and consolidates its local activities.
- Investment volume: over 300 million €
- Member of the CropEnergies Group, one of the largest bioethanol manufacturers in Europe



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Bioethanol – a biofuel

Over 80% of the bioethanol (also called “alcohol”) produced throughout the world is used as fuel. All cars with internal combustion engines can also use bioethanol.

There are various bioethanol-petrol blends:

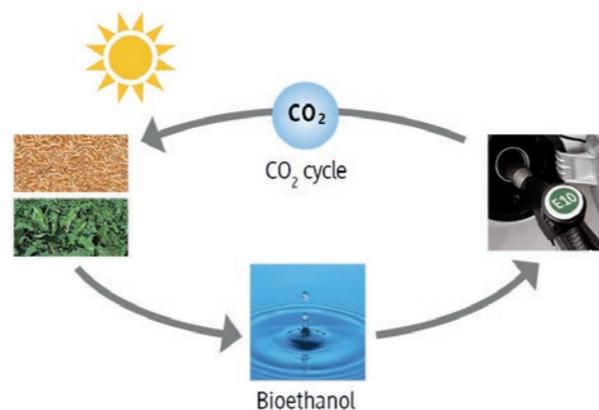
- **E5** and **E10**: a bioethanol-petrol blend with up to 5 or 10% bioethanol content by volume
- **ETBE** (ethyl tert-butyl ether), a fuel additive that increases the octane number

Bioethanol is the Number 1 biofuel worldwide and is increasingly replacing petrol.



The advantages of bioethanol

The CO₂ Cycle of Bioethanol



- Bioethanol is a sustainable fuel that contributes to climate protection by reducing greenhouse gas emissions.
- Bioethanol is a renewable fuel produced from local raw materials and contributes to the security of energy supplies in Europe.
- Bioethanol represents a new industrial sector, which has created jobs and strengthened local agriculture.
- Bioethanol has a higher octane number than petrol, contains almost no sulphur and is biodegradable.
- No fine particules emissions



The political framework

Climate protection due to reduced CO₂ emissions, increased energy independence and development of rural areas are becoming increasingly important in Europe. For this reason, the EU enacted the **Renewable Energy Directive** (2009/28/EC), which is binding for all Member States of the European Union.



- This Directive stipulates that 10% of the energy that will be required by the transport sector in 2020 must be produced from renewable energy sources.
- The sustainability criteria contained in the Directive ensure that only sustainably produced biofuels will count towards this quota. Biofuels must reduce greenhouse gases by at least 35%, and by 50% from 2017 on, in comparison to fossil fuels. Belgium will also implement this Directive into national law.



The BioWanze product portfolio

Bioethanol is a renewable fuel for the Belgian and European fuel sector, where it replaces petrol of fossil origin.

Gluten, a natural wheat protein, is used in the food industry and in high-quality feedstuffs, e.g. for aquacultures. Worldwide marketing is performed by BENE0-Animal Nutrition, a Belgian subsidiary of Südzucker AG, under the brand name BeneoPro W.

ProtiWanze® is a regional energy feedstuff for cattle and pigs, which is rich in easily digestible proteins and is of guaranteed quality and provenance. Its production means that part of the protein that is imported into Europe can be replaced by a high-quality local resource. ProtiWanze® is marketed by local partners in Belgium and neighbouring countries.



Wheat bran (GMP+) is used in feedstuffs for cattle and pigs. BioWanze exclusively produces and markets bran of certified quality and provenance.

Fertilisers, obtained from the residues of bran combustion in the biomass power plant, are rich in potassium, phosphorus and calcium and are used in agriculture or for composting. They are marketed by two local partners.

Green power guarantees a largely independent energy supply, is fed into the public grid and is capable of compensating for any potential shortages in electricity supply.