Hveiti - the sustainable biorefinery of tomorrow

Hveiti's mission is to create growth and development through the production of sustainably produced food, feed and bioethanol.

The Danish development company DBH Technology A/S started the project with the vision of creating a sustainable alternative to fossil fuels.

The fundamental idea is that the biorefinery at Grenaa Harbor should be a practical example of a sustainable production with an optimal resource use, where all parts of the feedstock are used, leaving no waste products.

DBH Technology's goal is to help create a general change in attitudes towards the future approach to resources, production and sustainability, so that we in Denmark and internationally become better prepared to meet the future challenges within food, feed and energy.

Fundamental idea

The fundamental idea is that if we are to do something about climate change and the rising demand for food, we have to change our attitude to the way we consume the Earth's resources.

In short; we have to focus on an optimal use of the resources available to us.

Hveiti is the Old Norse word for wheat.

See Hveiti's short animated video which presents the production concept on:

www.hveiti.dk/video

and follow Hveiti on:

www.facebook.com/hveiti.

DBH Technology A/S
Kystvej 26
DK, 8500 Grenaa

E-mail: info@hveiti.dk

An intelligent solution

to the future food, feed and energy challenges

hveiti
refining life

Developed by DBH Technology A/S

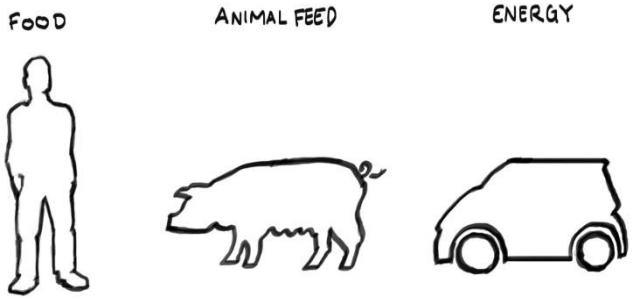
Biorefining

Biorefining is an intelligent solution to the future challenges within food, feed and energy.

Through a biorefining process you get:

- More out of the global land and water resources.
- An optimization of the feedstock's utilization degree, because in a biorefining process, all parts of the grain are used, and not only the parts that are available on the surface.

In this way, Hveiti will produce food (fibers), feed (protein) and energy (bioethanol).



Bioethanol from Hveiti has a CO_2 reduction capacity of 70 % compared to regular gasoline.

Thereby, Hveiti has no problems meeting the demand of the Renewable Energy Directive, which states that all plants must have a CO_2 reduction capacity of minimum 35 %.
From 2017, the requirement is raised to 50 % for existing plants and 60 % for new plants.

Feedstock choice

Hveiti's production concept is developed against the backdrop of Danish conditions and local advantages. Therefore, Hveiti will use feed wheat as feedstock in the production of fibers, protein and bioethanol.

Less than 5 % of the wheat cultivated in Denmark is used for food. This is due to climate- and cultivation conditions which cause a high amount of starch that makes the wheat unsuitable for backing.

In Denmark we have a large surplus of wheat:

- The main part is used unprocessed in feed for mainly cattle and pigs.
- The rest (about 1/3 of the harvest) is exported and used for feed and industrial purposes, like the production of bioethanol.
- The high amount of starch that makes the wheat unsuitable for food is an advantage in the production of bioethanol, as it is the starch which is converted to sugar and subsequently alcohol (ethanol).
- Besides starch, the wheat grain contains fibers, proteins and vegetable oils.

Reduced pressure on the South American rainforests

Today, the main part of EU's soybean import comes from South America. This puts an enormous pressure on the South American rainforests, which function as the planet's natural carbon stocks.

Worldwide there is an increasing demand for proteins, and especially the EU is witnessing a protein shortage. The EU is one of the largest importers of feed protein, of which the main part is soybean protein imported from South America. In this way, the EU is contributing to the large pressure on the South American rainforests.

By optimizing the EU agricultural farmland for the cultivation of feed wheat (for a biorefining process where fibers, protein and bioethanol are extracted), you reduce the EU dependency on feed proteins and fuel. At the same time, it has a positive effect on the climate in the form of reduced CO_2 emissions.

Release of agricultural land

Biorefining feed wheat for the production of fibers, protein and bioethanol free up agricultural land in South America:

- By biorefining feed wheat produced in the EU and using it for fibers, protein and bioethanol, instead of importing it from South America, you free up agricultural land in these areas.
- This means that in these areas, instead of producing sugar cane for the bioethanol production, you can produce food.
- For every 0.69 hectares of Danish agricultural land used for the production of feed wheat for a biorefining process where starch, fibres and protein are extracted, 0.71 hectares of agricultural land are freed up globally. This is due to the introduction of a high-value protein, which is a natural by-product in a biorefining process, but which until now, has not been optimally utilized.