

## ***Bioenergy in Use***

### **Ensus – Bioethanol Production in Teesside**

The Ensus facility on Teesside produces bioethanol along with two important co-products; a protein rich cattle feed and food-grade CO<sub>2</sub> which is used in the beverage industry. The bioethanol is sold to refineries, which blend it at levels of up to 5% with petrol to produce E5, which is the main petrol grade consumed in the UK.

The feedstocks for the process is primarily UK-grown feed wheat, which is fermented, turning the starch into alcohol. Feed wheat has relatively low levels of protein - making it unsuitable for milling to make bread – but what protein there is becomes concentrated in the DDGS co-product. It is this DDGS (Distillers Dried Grains and Solubles) that is supplied as a livestock feed, and which substitutes for imported soy-bean based feeds from South America (which have a higher carbon footprint and are associated with greater concerns surrounding land use change and deforestation).

In 2018, the bioethanol produced at Ensus had a 64% carbon saving (in comparison fossil petrol) and this year its GHG savings will be even greater. The company has recently been striving to go beyond the GHG savings required by the Renewable Transport Fuel Obligation, through a variety of energy efficiency measures, alternative feedstock sourcing and capturing and utilizing its biogenic CO<sub>2</sub> emissions. The GHG reporting regulations have provided the stimulus for this, and it makes sense for this policy mechanism to remain in place rather than fall away after the year 2020.

The Ensus facility supports [100] direct employees, and an additional 3000 indirect jobs in UK agriculture and they associated supply chain. Its long-term survival is critically-dependent on the introduction of E10.

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