

The Status of Biofuels in Yorkshire and the Humber

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Report Launch, CATCH



This Presentation

What are Biofuels?

Context for this Study

Project Brief

Our Methodology

Key Findings

Conclusions

What are Biofuels?

Biofuels are transport fuels derived from plant or animal material

They can be blended with existing forms of fuel – or used directly where possible with minimum modification to engines

The main biofuel types are:

- *Fatty acid methyl esters (FAME or Biodiesel)* produced from vegetable oil crops e.g. rape seed, or from the conversion of waste materials e.g. cooking oil. These are targeted at the diesel market;
- *Bioethanol*, produced by fermentation of starches and sugars from crops such as sugar beet and wheat. These are targeted at the gasoline market as a blending component;
- *Purified & liquified biogas* targeted at the natural gas market

Other “second generation” biofuels are under development

The Context

EU priority to expand use of liquid biofuels for transport

Climate change mitigation

Diversity and security of energy supplies

Rural development

A range of EU and UK incentives have been introduced to encourage this

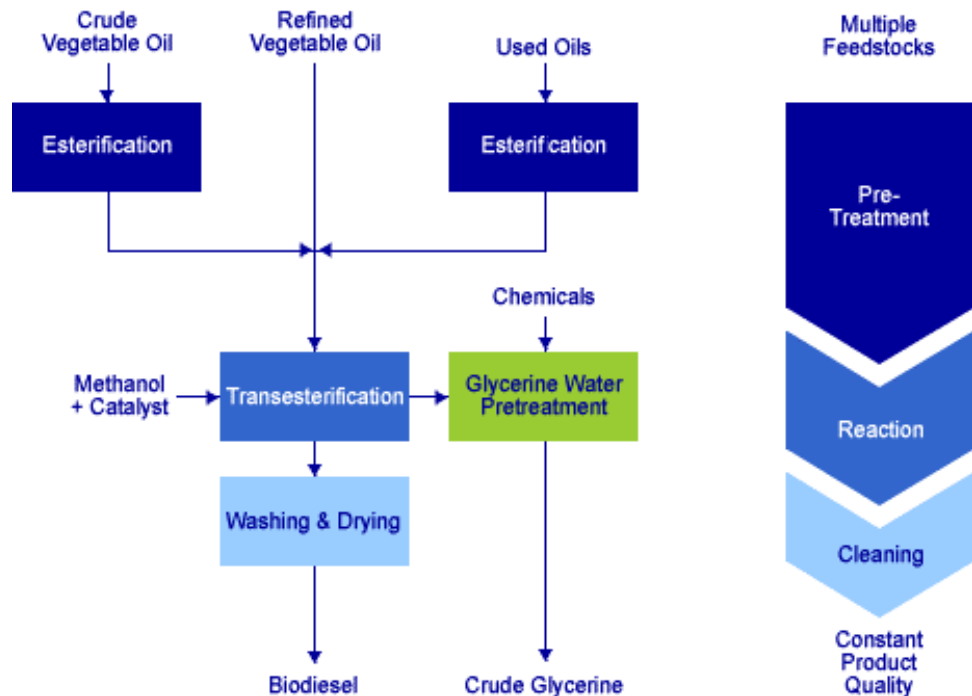
EU Biofuels directive

UK Renewable Transport Fuels Obligation (RTFO)

A range of possible issues arise when considering future liquid biofuels opportunities

Yorkshire and the Humber procured a study of liquid biofuels' status (January – August 2007)

Project Brief



To evaluate the current situation on liquid biofuels within Yorkshire & the Humber

To evaluate the potential opportunities to develop the biofuels market and industry within the region

To consider how existing or near-market biofuels technology will influence the biofuels industry

To consider how best to ensure that biofuels (indigenous or imported) are obtained from sustainable sources

Our Methodology

1 Evaluate current regional biofuels situation

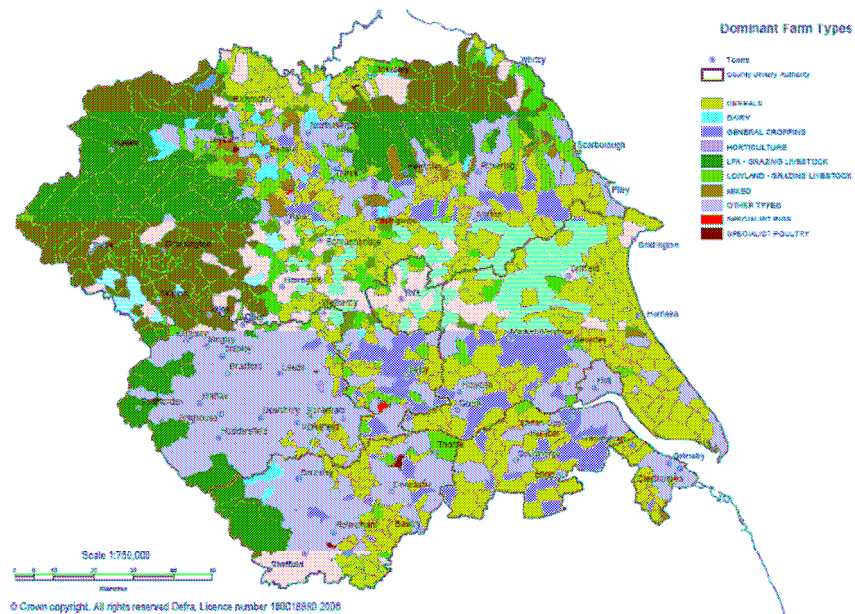
- *Short literature review*
- *Current regional initiatives*
- *Barriers and opportunities*
- *Current scale of markets and operations*

2 Evaluate potential opportunities for biofuels industry and markets

- **Drivers** – *Existing RTFO / funding support / future developments in national policy, incentives*
- **Markets** – *National / regional*
- **Industry** – *Scope for biofuels hub*
- **Feedstocks** – *Indigenous vs. imported*
- **Stakeholder views** – *As input to above*

3 Prepare draft report for feedback via Regional Energy Forum

Key Findings - I



Regional Strengths

- *Local feedstock supplies*
- *The Humber ports and associated land*
- *Oil refineries & chemical industry clusters*
- *Skilled workforce*

Regional Constraints

- *Amount of available land for crop production*
- *Environmental issues*
- *Road transport in rural areas*
- *Future port capacity*
- *Funding*

Key Findings - II

Biodiesel already in production within the region at a variety of scales

Two large bioethanol plants could be developed using readily available local feedstocks

The Humber would be a good location for development of a second generation* biofuels plant

There could be benefits to other industries if biofuels are developed further

- *Farming / rural communities*
- *Oil and chemical companies*
- *Added trade at the Humber ports*

***Second generation biofuels technologies can lead to improved performance, economic or environmental advantages but are still under development**

Key Findings - III

There are future threats to the development of a regional bioenergy industry including

- *Sustainability of production – if imports constrained*
- *Competition for the future of second generation technologies*
- *Cheap imports reduce local benefits*
- *Other parts of the UK play host to developments*
- *Planning approval?*

Specific actions that could be taken

- *Increase recovered vegetable oil (RVO) collection / utilisation*
- *Encourage biofuels in local Government vehicles*
- *Increase oilseed rape production*
- *Develop supply chains*
- *Maximise benefits from any large-scale plant by using by-products for heat and power generation*
- *Chemical industry processing of by-products*
- *Take forward “bio-refinery” concept*
- *Attract biofuels R&D to the region*
- *Encourage siting of pilot second generation plant in the region*

Conclusions

Liquid biofuels can contribute to regional policy objectives

Their wider uptake presents a number of opportunities and benefits but also carries risks and drawbacks

The region is well-placed to pursue the benefits that liquid biofuels can offer