

UK biodiesel: Establishing a 'producer to product' chain

C. MERRITT

Monsanto UK Ltd., Cambridge CB2 2LQ

Summary

This overview gives a perspective based largely on experiences from the North East region of England, which has adopted a leading role in establishing a hub for biofuels industrial development. The new, and potentially very large, biofuels market features many complexities and uncertainties from a planning and strategic development viewpoint. However, the work of the vertical cluster group, Northeast Biofuels has been successful in establishing an industry in England.

Developing a UK biofuels industry

The emerging biofuels industry has developed in a piecemeal way on an international perspective, dependent on various levels and forms of Government policy and support mechanisms.

France and Germany led the early establishment of biofuels production and distribution in Europe. Hence, over the past few years, opportunities and challenges had to be managed in developing a UK-based industry to benefit the local economy and particularly UK farming.

Recent developments in the UK have had following major drivers:

- Climate change and policy on carbon and GHG emissions
- Security of supply, both short-term (volatility) and long-term
- Agricultural, industrial and regional economic opportunities

In assessing the merits of particular areas, regional advantages and facilitating strengths are important, including:

- Presence of a concentrated industry of chemicals sector, fuels distribution and supporting engineering skills
- Appropriate deep sea port facilities
- Enabling planning environment
- Adequate potential to produce feedstock of high quality and efficiency

Despite these very positive aspects, this newly emerging industry has had to contend with many challenges, including:

- Commodity volatility (including crops and oil)
- Competing demands for commodity supply by sector and location
- Reliability of policy-driven targets

- Competition from alternative and new technologies
- Securing development and main funding of production plants and facilities

Potential investors will only support new developments if their specific requirements are met. In particular, equity and loan funding providers set the following criteria regarding new processing and production facilities:

- Confidence of feedstock supplies and offtake of product
- Is the technology tried and tested at the scale proposed?
- Can the development proceed in a modular way, rather than a single large commitment?

Northeast Biofuels and the biodiesel supply chain

The following features described the project from its inception:

- Biodiesel (esterified vegetable oil) was an established process
- The industry was already reasonably large in Europe and growing fast
- Policy was increasingly favouring the sector (biofuel blending targets being set, EU directive, fuel quality specifications etc)
- Many elements of the supply chain were already well established
- The end use of biodiesel in the transport fuel system poses no major problems

Nevertheless, some distinct areas needed input:

- There was initially little or no processing in the North East region (either oilseeds crushing or esterification)
- Oilseed rape had not previously been grown as a priority crop through much of the region, but was grown more as a convenient break in a cereals-focused system

Certain key elements have led to success in the North East:

- Formation of Northeast Biofuels as a vertically-integrated cluster group, involving industry partners from all levels of the supply chain, plus public sector bodies and regional agencies, all working to define a common strategy
- Strong support from the regional development body, One North East
- Attraction and encouragement of biodiesel processing start-up companies to the Teesside area (notably Biofuels Corporation and D1 oils)
- Identification of a crucial need for a crushing facility and the development of Tees Valley Biofuels to ensure efficient competitiveness of the local supply chain
- Identification of the critical element of local production and supply of oilseed rape feedstock; leading to work on the benchmarking and enhancement of production

efficiency at farm level, through a grower network

- Implementation of a supporting programme of research and development projects, including Value Chain Analysis (VCA), Carbon life cycle analysis (LCA), fuel and co-product quality analysis etc
- A continuing programme of promotional and educational activities at local and national level, including a pilot scheme of point of sale branding and promotion, in the form of 'One Green Route'
- Regular engagement with policy makers and involvement with regulatory developments, such as engagement with the development of ReTFO carbon and sustainability criteria, as a case study

Northeast Biofuels has made excellent progress in a short time in achieving a 'producer to product' chain in a very difficult political and commercial climate.