

## United Kingdom Country Report

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### Recent History of SRC in the UK

After the short rotation coppice (SRC) site/clone interaction trials of the late 1980's and early 1990's conducted by the Forestry Commission and ETSU, the late 1990's saw a boom time for SRC and medium-scale biomass plants in the UK. Companies such as First Renewables, Border Biofuels and Ambient Energy were awarded NFFO contracts for a variety of biomass developments most of which proposed using advanced technologies such as gasification or pyrolysis with a commitment to draw on a combination of forestry residues and SRC. However, delays occurred to many of the projects for reasons such as technical difficulties with plant, issues with road access and planning permission and eventually all the projects failed.

The most significant was Project ARBRE (ARable Biomass Renewable Energy) which was to be an 8MWe gasification plant utilising combined cycle technology and sited in Eggborough, Yorkshire. Both the DTI (Department of Trade and Industry) and the European Commission agreed grant funding of £3m and £10m respectively with the remainder of the finance coming from private companies.

Project ARBRE was estimated to require 43,000 odt (oven dried tonnes) of wood chip per annum and it was planned to utilise biomass fuels from two main sources; forestry residues and SRC. As a result of this perceived need, farmers in a 40 mile radius of the plant were encouraged to plant SRC and were awarded contracts to guarantee a market for the fuel grown. In total over 1500 hectares of short rotation coppice was planted in a 40 mile radius of the plant.

Unfortunately, in 2002, the developers of Project ARBRE pulled out of the programme due to long delays in commissioning and the many technical problems encountered. As a result ARBRE has been inactive for over a year and although it now has a new owner there has as yet, been no resolution on how to bring the plant to commercial production. As a result of the failure of this project a high level of scepticism was generated within the farming community and has significantly delayed progress in the UK.

### Drivers for SRC Development

At the present time in the UK there are a number of key policy drivers for the development of SRC for bioenergy. Namely:

- The creation of a low carbon economy, so reducing greenhouse gas emissions and meeting renewable energy targets (10% of the UK's electricity to come from renewables by 2010 and thereafter increasing)
- Providing diversification opportunities for farmers and growers
- Creating a more sustainable and environmentally balanced countryside
- Creating opportunities for rural employment

To assist with getting farmers and growers interested in growing SRC, Defra (Department for Environment, Food and Rural Affairs) runs the 'Energy Crops Scheme' (ECS) which has two main streams of funding; Establishment Grants and Producer Groups. Establishment Grants aim to cover 50% of the cost of establishing SRC. In the UK, the two main energy crops are willow coppice and miscanthus. For willow coppice the grant available is either £1600/ha or £1000/ha depending on previous land use. For miscanthus, the establishment grant available is £920/ha. The Producer Group funding scheme can provide 50% of the costs of establishing a grower group up to a maximum of £200k per group. The aim of establishing producer groups is to enable growers to work together to harvest and supply crops to an end market, sharing the risk and the profits to be made.

Another key driver for change in the UK is the amendment to the 'co-firing rules' as part of the Renewable Obligation Order (RO). Under the RO, existing fossil fuel power stations can claim ROCs (Renewable Obligation Certificates) through the co-firing of fossil fuel with biomass up until 2016. Until 2009 there is no requirement to burn a proportion of energy crops however subsequently the following must be adhered to in order to qualify for ROCs:

Period	Minimum % of Energy Crops
1 <sup>st</sup> April 2009 – 31 <sup>st</sup> March 2010	25%
1 <sup>st</sup> April 2010 – 31 <sup>st</sup> March 2011	50%
1 <sup>st</sup> April 2011 – 31 <sup>st</sup> March 2016	75%

The aim of these rules is to encourage the early and large scale development of energy crops (and related infrastructure) in the UK by ensuring a guaranteed market for the fuel. This 'market enabling measure' will then it is believed, catalyse the supply of fuel to dedicated biomass plants post 2016 when the amount of SRC required for co-firing is likely to diminish.

An important factor will be the reform of the Common Agriculture Policy (CAP) with implementation in the UK in 2005. The overall aim of the reform is to decouple subsidies and production through the introduction of a Single Farm Payment (SFP). This change in the way that subsidies are to be paid under CAP reform, releasing farmers from production of certain crops in order to gain subsidies, could have positive implications for SRC. It may open up markets to non-conventional crops and offer an economic way for farmers to diversify. In advance of the reform an annual aid payment for energy crops was introduced on 1<sup>st</sup> January 2004. This payment of €45/hectare is available to growers with energy crops planted on non set-aside land with a contract with an end user.

### **Barriers to Implementation**

There remain many barriers to the introduction of large-scale SRC plantations in the UK, many of which are linked to uncertainties in the market. Underlining this National position is a constantly changing set of European policies and legislation relating not only to energy crop production, but also to farming directly and to related industries such as waste management. Cumulatively, these have a dramatic impact on the confidence of farmers and growers when contemplating diversifying into SRC for energy production.

Other biomass fuels, such as forestry and sawmill residues are generally available at a lower cost than SRC. This is primarily because the SRC industry is still in its embryonic stage and the specialist equipment required to manage SRC is expensive and in short supply. Since energy producers have the option to purchase lower priced alternatives, there is limited opportunity for the higher priced SRC wood chips to compete.

The RO and other drivers are expected to increase the market for SRC in the future, however, at the present time, there is a lack of confirmed markets. Many large power producers have not yet committed to setting up co-firing contracts with growers, despite being the 'co-firing rules' now in place. Dedicated biomass plants are also limited in number, and those that have been proposed, struggle to be constructed for various financial, regulatory and planning reasons.

Despite these barriers, there are a few examples of where the SRC industry is starting to develop in the UK fueled by the new drivers discussed above. New employment opportunities are being created, habitats diversified and a range of other benefits accrued.

### **Current Status of SRC**

At present in the UK there are three Defra funded SRC producer groups taking the lead in organising the wider scale planting and production of SRC based fuels. The first of the three is the Renewable Energy Growers (REG) Group and was established around project ARBRE with the aim of providing the fuel necessary to run the power station. Since project ARBRE failed the group has been sourcing alternative end markets for the SRC and a number of the farmers have installed their own small scale biomass heating systems in order to utilise the willow coppice on-farm. Another exciting opportunity arose in March 2004 when Renewable Fuels Ltd, announced an agreement between themselves and Drax Power Ltd to supply short rotation coppice to the 4,000MWe coal-fired power station. The bulk of the SRC fuel is to be sourced through REG producer group.

The second producer group was formed in 2002 to supply SRC to the proposed 5.5MWe power station at Eye in Suffolk. The group, Anglia Encrops, has 6 members with approximately 80 hectares of willow coppice growing. Due to the failure of the Eye project the group is looking for alternative markets for the fuel. It is expected that the main market for the fuel will be a cluster of small scale heating applications.

The most recent producer group to be formed is TV Bioenergy Coppice. This group was formed in 2003 and covers the region of the Thames Valley, Surrey and north Hampshire. The group was established to provide SRC fuel to the existing 90MWe power station in Slough, the proposed biomass CHP plant at Bracknell and the developing small scale heating market in the region. In addition, the group is researching opportunities to supply to fossil fueled power stations for co-firing such as the 2,000MWe plant at Didcot. To date the group has 5 members and 45 hectares of SRC but plans to expand considerably over the next 5 years. It is hoped that due to the existence of an existing biomass power station in the local area (which has strong connections with parent company TV Energy) the group will not run into the same problems as other producer groups in the UK.

*The views expressed in this report are those of TV Energy and do not necessarily represent those of DEFRA or the DTI.*