

Energy Crop Scheme Guidance Document

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Summary : Last year, grants were available through the Energy Crop Scheme (ECS) for establishment of Miscanthus (Elephant Grass) and Short Rotation Coppice. Site assessments were undertaken by the Forestry Commission (FC). The local, and Area Office received a total of 50 Miscanthus establishment grant applications, of which 2 were in the Chilterns AONB, 8 in the North Wessex Downs AONB. The Energy Crop Scheme (ECS) is currently closed but expected to be re-launched later this year. A draft guidance note has been produced locally, for potential ESC applicants who are considering a scheme with the Chilterns or North Wessex Downs AONB.

Purpose of report: To seek the Board's approval of the draft guidance.

Background

1. The market for energy crops – crops grown specifically to be harvested and burnt in power stations for electricity or heating systems – is developing in response to the concerns about climate change and targets for reductions in greenhouse gasses.
2. The UK Government has a target to generate 10% of the nation's electricity from renewables by 2010. The Defra website suggests that one way of meeting this target could involve up to 125,000 hectares of energy cropping.
3. One energy crop is miscanthus - woody, perennial grasses, originating from Asia with the potential for very high rates of growth at the most productive sites. Regarding yields, Defra guidance states that 'More experience is needed of yields under a wide range of soil conditions, but current information suggests that most lowland agricultural sites in England should be suitable for miscanthus cropping, with the highest yields coming from deep, moisture retentive soils.'
4. Didcot Power Station is the main existing end user locally. It should be noted that use of energy crops for energy production via power stations is far less efficient than use for direct heat production.
5. Miscanthus is planted in spring and canes produced during the summer are harvested in winter. This species is capable of maintaining this annual cropping cycle for 15 years. Miscanthus differs from short rotation coppice willow (an alternative energy crop) in that it gives an annual harvest and thus an annual income to the farmer.
7. Defra advise that all propagation, maintenance and harvest operations can be undertaken with conventional farm machinery.

8. Growth cycle: new shoots are produced annually which usually emerge during April. These shoots develop into erect stems, which reach 1 - 2 m in height by late August of the year of planting, with a diameter of 10 mm. The stems have an appearance similar to bamboo canes. From late July the lower leaves start to dry. Crop drying accelerates during autumn, as nutrients move back to the rhizome. Leaves then fall and a deep leaf litter develops. Any remaining foliage dies following the first air frost, and the stems dry to a relatively low moisture content (30-50%) during winter. By February, free standing, almost leafless canes remain and it is these which are harvested mechanically. This growth cycle is repeated once spring-time temperatures increase again. From the second season onwards the crop can achieve a maximum height of 2.5 - 3.5 m.

Winter: - Harvestable stems



Spring: - New shoots emerge



**Summer: -
Crop reaches
maximum height**



Autumn: Accelerated crop drying



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9. No details are yet available regarding the ECS which is expected to be re-launched later this summer.
10. Earlier this year, the Forestry Commission (Berks Bucks and Oxon Area Office) approached the Chilterns Conservation Board and North Wessex Downs AONB unit regarding the production of local guidance to complement

the national guidelines produced by Defra. Despite the uncertainties over how the new scheme will operate, it was felt to be useful to proceed with the work so that a final version could be produced quickly once the details are confirmed.

11. The guidance is intended to highlight the key issues that applicants will need to consider in relation to the impact of energy crops on landscape, recreation, biodiversity and the historic environment when planning a scheme within the AONBs. It is also intended to direct applicants to appropriate sources of advice and information. It was produced in liaison with Natural England.
12. A copy of the draft document is attached, Appendix 1 – the final version will include photographs.
13. The draft has been discussed at both the Land Management Group and the Technical Panel at recent meetings. Both were supportive in principle the idea of producing the guidance document, and made a number of comments on the draft.
14. Whilst there may be merit in future in carrying out a more detailed analysis of the sensitivity of certain landscape elements within the AONB to energy crops it seems, at present, unlikely that there will be a major uptake in the Chilterns. Also, there is likelihood that Natural England will be producing more detailed guidance for future years so it will be important to avoid any duplication of effort.
15. At Defra's request, Natural England have produced some initial information on potential effects of biomass crops on landscape, broken down by Joint Character Area (JCA). This provides a matrix of potential impacts of energy crops in relation to each of the key landscape characteristics of the JCA. (see copy below). A more detailed map-based analysis is under consideration.
16. The review of the AONB Management Plan provides an opportunity for the Board to set out its position on the broader issue of energy crops and bio fuel - including wood fuel. These issues have been highlighted within the draft Climate Change Action Plan

Recommendation

1. **That the Board endorses in principle the draft guidance and the approach to production of future guidance.**