



Annex C: biomass and micro-hydro

Biomass and micro-hydro are two types of microgeneration that have their own unique challenges but offer significant opportunities for expansion.

Biomass

Biomass can be produced from a number of sources - ranging from virgin material (such as crops and forestry) and recycled wood, to waste from municipal and commercial sources. It has some unique challenges -

- Biomass feedstocks generally have a cost associated with them, unlike other renewable sources such as solar or wind. This has significant impact on project viability, especially for electricity generation
- Biomass has to be stored by the user
- Given its bulky nature, road transportation of biomass is expensive relative to the value of the product

Yet biomass still has the potential to contribute to the reduction of carbon emissions, improved security of energy supply and also rural objectives. Biomass can provide heat, power and transport fuels and has the advantage compared to some other renewables of flexibility of supply - but needs the development of robust fuel supply chains.

There is also strong emerging international support for biomass - with a number of countries already having significant bioenergy

capacity installed e.g. Austria and Finland. The European Commission has published a Biomass Action Plan at the end of 2005 and the G8 (under UK Chairmanship) is developing an International Bioenergy Partnership.

We need to increase the contribution from bioenergy and at the same time ensure that biomass production from energy crops or forestry is sustainable. Appropriate safeguards for biodiversity, the historic environment and other environmental factors need to be in place. Attention also needs to focus on measures to optimise the siting, design and environmental and energy performance of plants.

The complex issues involved in the promotion of biomass is why we gave the Biomass Taskforce (lead by Sir Ben Gill) a remit to assist Government and the biomass industry in optimising the contribution of biomass energy to renewable energy targets and to sustainable farming and forestry and rural economy objectives. The Taskforce published its report on October 25 2005. The Government welcomed the report and is committed to



responding by the end of April (which is why the detail cannot be included in this document). This response will outline areas in which Government will be taking further action in relation to promoting biomass and areas where further analysis is required.

Micro-hydro

Small-scale hydro-power schemes have good potential to raise public awareness and support for renewables. The impact will be greater with group or community schemes as individual schemes are rarer and tend to be out of public view. Micro-hydro is largely non-controversial, although it can cause problems with fishing and water abstraction in low flow rivers. The largest resource exists in Scotland and Wales.

The unique challenge faced by the micro-hydro industry is that a micro-hydro installation has a measurable impact on its environment. The potential impacts include: impacts on fish migration, fish being damaged in turbines, flood risk, impact on flora and fauna and water quality issues. This does not mean that we should shy away from encouraging micro-hydro schemes, but there is a need to ensure that schemes work with the environment. To support consistency and enable development of practical hydropower sites the DTI is funding a joint project between Environment Agency, industry and the Cabinet Office to develop good practice guidance.

The EST study suggests that the potential for micro-hydro installations in the UK is approximately 100MW, but this is obviously limited by the number practical sites. Most of these sites will require an abstraction licence as well as planning permission.

But there still appears to be issues around the licensing system.

