

Biomass Sustainability



Papermaking is based on a sustainable resource – fibre produced from trees. Recycling is integral to the industry as more than 70% of paper manufactured in the UK is made from recycled fibre, but virgin fibre is still required to replace fibre lost from the recycling loop.

Harvesting timber from forests is a time honoured tradition, with new trees growing to replace those harvested. This traditional use of woodland is widely supported as, in addition to providing raw materials for industry, actively managed forests can fulfil a number of other roles such as nature conservation and recreation as well as storing carbon as biomass. Indeed, income from the sale of forest products provides local jobs and an economic incentive to retain and expand forest cover.

The Carbon Cycle. Forests are an important part of the carbon cycle - growing trees absorb atmospheric carbon dioxide with carbon being returned to the air through either natural decomposition or burning. Biomass in forests and timber-based products both act as carbon stores and are key to combating increasing levels of carbon dioxide in the atmosphere. Natural forests tend to be in equilibrium - carbon entering the system is balanced by that leaving. Properly managed forests can become net absorbers of carbon as trees grow to replace those harvested.

Increasing use of wood as biofuel. The Pulp and Paper Industry has long used process residues and other by-products as an energy source, with more than half of the energy used by the European industry generated from biomass.

The sustainable nature of wood has resulted in a number of Government policies supporting its use as a fuel to produce heat and power. This increasing demand is putting pressure both on European forests and drawing biomass harvested in other countries into the EU to the extent that concerns are being raised that some of this biomass is not sustainable. Indeed, subsidised use of biomass is diverting raw materials previously used by higher value manufacturing industries into energy production.

With renewable energy targets aiming to reduce greenhouse gas emissions for the wider benefit of society, it makes sense that sustainability criteria for solid biomass should be carbon related and also ensure

that ultimately limited supplies of sustainable biomass are used efficiently.

Solid biomass should only be eligible for energy use if it fulfils the following criteria:

- **Biomass should only be sourced from countries with mandatory carbon accounting for land related carbon emissions and removals.** Land Use, Land Use Change and Forestry (LULUCF) accounting considers harvesting rates across countries or regions and provides assurance that harvesting rates do not exceed replacement rates. This wider approach is needed to take account of growing cycles in individual harvesting areas – sustainability can only be judged over longer time periods and an appropriate sized forest area. Any biomass sourced from non-LULUCF accounting countries should be required to prove there is no over-harvesting associated with its use.
- **Biomass should be from sustainably managed forests.** Biomass should only be from forests managed in compliance with the principles and criteria of sustainable forest management as defined by the Helsinki Resolution, or at least correspond to the criteria or guidelines for sustainable forest management as mandated through international and regional initiatives. Harvesting of biomass should not be linked to long-term land use change.

- **Biomass should be both legally harvested and independently verified.** European Union Timber Regulation requires that all pulp used in European papermaking is legally harvested. However, UK papermakers have also long supported independent verification schemes (such as FSC and PEFC) that provide confirmation that pulp is not only legal, but also sustainable.
- **Biomass should be used in compliance with the Cascade approach for using forest raw materials.** Use of biomass should be within a “cascading approach”, to support the most efficient use of limited natural resources and maximise the creation of value for food, products and only then energy use. **Energy used for biomass should focus on low grade or waste materials after being used for other processes.**
- **Standards should be in place to ensure that efficient use and savings of Greenhouse Gas (GHG) emissions are genuinely delivered.** Financial support for power generation should be dependent on meeting efficiency levels and proof of GHG savings to ensure the positive substitution effect of carbon neutral biomass is maximised. Converted coal-fired power stations or co-firing in existing plant would be unlikely to reach these minimum levels. **Such projects should only be supported if they meet pre-set generation efficiencies.**

Background policies. The European Renewable Energy Directive (RED) requires that liquid biomass derived fuels (including black liquor produced as a by-product in a number of European chemical pulp mills) can only be classed as renewable if they meet sustainability criteria. A revision of the RED is the route through which sustainability criteria for solid biomass should be introduced across the EU.

The UK Government has added to the minimum requirements of RED by including solid biomass as a fuel that must meet certain criteria if support is offered through the Renewables Obligation (RO) or the Renewable Heat Incentive (RHI).

Essentially, operators are required to supply (to Ofgem) an independently audited Annual Sustainability Report containing information on the type of biomass, form of biomass, country of origin and whether it conforms to

any environmental quality assurance standards. Land use and GHG emission information is provided on a monthly basis as part of each RO claim. Criteria that must be met are:

- A minimum 60% GHG emission saving for electricity generation using solid biomass or biogas relative to fossil fuel;
- A general restriction on using materials sourced from land with high biodiversity value or high carbon stock – including primary forest, peatland, and wetlands.

CPI Members operating biomass CHP supported the introduction of these policies.

Full details of the UK sustainability requirements can be found at:

<https://www.gov.uk/sustainability-standards-for-electricity-generation-from-biomass>

Confederation of Paper Industries

- The Confederation of Paper Industries (CPI) is the leading trade association representing the UK's Paper-based Industries, comprising paper and board manufacturers and converters, corrugated packaging producers, makers of soft tissue papers and collectors of paper for recycling.
- CPI represents an industry with an aggregate annual turnover of £6.5 billion, 25,000 direct and more than 100,000 indirect employees.
- For facts on the UK's Paper-based Industries please visit: www.paper.org.uk.

REVISED: NOVEMBER 2017