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Background paper accompanying the CEPI position on bioenergy sustainability criteria

The pulp and paper industry as an important player in the bioeconomy plays a central role in bioenergy production using resources efficiently

The European pulp and paper industry is a key driver for the efficient use of sustainably sourced wood for bio-based products and bioenergy. The share of bioenergy in the European pulp and paper industry's energy consumption is 57%. This represents 18% of the overall European solid biomass-based energy. The forest industry has made significant investments in replacing fossil fuels with bioenergy in its processes and has thus decoupled production from emissions. Typically, pulp mills procure wood for their pulping process. The wood and bark not suitable for pulp-making is used in the biomass boiler. In the chemical pulping process, the fibres are separated from the lignin. This by-product, commonly referred to as black liquor, is mostly used for on-site bioenergy production. Due to the co-generation of heat and electricity, high conversion efficiencies are reached. More recently, bio-refineries have used the non-fibrous parts of wood to produce more added-value products to better leverage the chemical value of the different components of wood biomass. The production of pulp supports the economies of scale needed for development of emerging bio-products. Together they substitute fossil fuel, fossil fuel based and other more carbon intensive products in the growing bioeconomy.

The European pulp and paper industry has become increasingly efficient by expanding its raw material base and producing renewable and recyclable products, which are recycled in the pulp and paper industry at a rate of over 70%. Today, half the raw material input to the industry is based on paper for recycling. This cascading principle leads to 2,5 uses of the wood fibre instead of just one, thereby contributing to resource efficiency and the creation of shared value for the European society. By-products from the pulp and paper industry are increasingly used in other industries, leading to industrial symbiosis. The further development of value-added products in bio-refineries based on wood from sustainable forest management will further contribute to this shared value creation.

European wood is expensive from an international perspective. The European forest industry has developed a resource efficient and market-driven way of using all parts of trees. The pulp and paper industry uses smaller dimensions and by-products from saw mills. The whole industry uses wood residues to generate energy for its internal needs as well as to supply electricity and heat to the grid or the community.

CEPI believes that future bioenergy policy should follow a market-based approach. In the long run, bioenergy development in Europe should be based on non-distortive market rules. Distorting subsidies should be phased out in a defined time period and subsidies should be strictly limited to the use of wood, which would otherwise not be used for more added-value applications. The cascading use of wood is a principle, which is followed in a market-based approach, which should lead to specific measures to mitigate subsidy-induced market-distortions. The cascading use of wood principle should be followed in the decision making on bioenergy support mechanisms.



In order to ensure availability of raw material for the bioeconomy, bioenergy policies should balance the target-based demand-side approach with supply-side measures. Supply-side measures should increase the biomass potential by facilitating the growth, access and mobilisation of wood, assortments for which there is no market today. Examples include small diameter wood from pre-commercial thinning or the promotion of energy crops. Supply-side measures should secure and improve the growth of forests and mobilise more wood from European forests for all uses, as they generate residues and thereby increase the biomass potential. In this way, they would contribute to avoid distorting wood markets, on which market players should compete fairly.

Bioenergy is an important contributor to climate change mitigation

“Solid and gaseous biomass –particularly wood and wood waste- used for electricity, heating and cooling production is the biggest source of renewable energy in the EU (and is expected to make a key contribution to the 20% EU renewable energy target by 2020. In 2010 wood and wood waste supplied 49% of the share of energy from renewable sources in the EU gross final energy consumption.”¹ According to the impact assessment to the 2030 Climate and Energy Framework, biomass use in the heat and power sectors is expected to further increase in the medium term, in the context of the EU effort to move to a low-carbon economy by the mid-century.

Bioenergy and its role for climate change mitigation is one benefit from sustainable forest management. The EU Forest Strategy has the 2020 forest objectives to “ensure and demonstrate that all forests are managed according to sustainable forest management principles and that the EU’s contribution to promoting sustainable forest management and reducing deforestation at global level is strengthened, thus contributing to balancing various forest functions, meeting demands, and delivering vital ecosystem services and providing a basis for forestry and the whole forest-based value chain to be competitive and viable contributors to the bio-based economy.”²

The pulp and paper industry approach to sustainable forest management and existing national, EU and market-based instruments

The European pulp and paper industry has committed to sourcing wood from sustainably-managed forests³. The industry has supported the development of Criteria and Indicators in the Forest Europe⁴ process. 90% of the wood consumed in the European pulp and paper industry is from the EU. The remaining wood comes from Russia, Ukraine and Belarus, the two former also being signatories of Forest Europe.

In the EU, forest policy is under Member States’ competence. Member States have stringent forest legislation supplemented by nature and other forest-related legislation. “Member States have comprehensive systems in place to ensure that SFM in accordance with the principles and criteria of Forest Europe is achieved in practice. These vary from country to country, but include domestic legislation and a variety of additional requirements that are

¹ Commission Staff Document “State of play on the sustainability of solid and gaseous biomass used for electricity, heating and cooling in the EU”

² Commission Communication “A new EU Forest Strategy: for forests and the forest-based sector”

³ CEPI position FOR-090-05

⁴ Forest Europe (former Ministerial Conference on the Protection of Forests in Europe - MCFPE) provides general guidelines for the sustainable management of forests in Europe, but it applies only to Europe and as long as there is no legally binding agreement on forests, it remains voluntary. Similar non-legally binding processes exist in different world regions



enshrined in legislation, such as national forest programmes or equivalent and strategies.”⁵ Through legislation, Member States define binding requirements that forest owners or operators have to fulfil while planting, thinning, logging and more generally managing the forest. Best practice guidelines, such as on forest management or energy wood harvesting complement legal requirements at national level. Participatory processes, involving government, forest owners and NGOs have contributed to national forest legislation, which ensures that for these origins, legally-sourced wood means wood from sustainably-managed forests. This way, European forests have grown in surface and growing stock and at the same time increasing the delivery of wood for bio-based products and bioenergy.⁶

In addition to national legislation at Member State level, there are the following existing instruments at EU and international level:

- The EU Timber Regulation (EC/995/2010) addresses legality of wood taking into account applicable relevant legislation of the country of origin covering timber harvesting, including national environmental and forest legislation. It therefore addresses sustainability only if sustainability is part of the national legal framework. In Europe for many trade partners, forest-related legislation covers sustainable forest management. However, there may be biomass that is legal but comes from countries whose legislation allows, for example, overharvesting and does not protect biodiversity.
- Carbon accounting is mandatory for signatory countries of the Kyoto Protocol. Imports of biomass from countries that do not account their LULUCF emissions would still not have their emissions accounted for. However, a majority of partners now include LULUCF in their Intended Nationally Determined Contributions (INDC) on greenhouse gas reductions. The Paris agreement sets higher demands on monitoring and reporting, including the land use sector. The restriction that only countries participating in the Kyoto Protocol account carbon fluxes from the land use sector may therefore be outdated in 2020.
- The Biodiversity protection framework consists of the Convention on Biological Diversity (voluntary), Bird and Habitat Directives including Natura 2000, CITES (Convention on International Trade of Endangered Species) and the EU Biodiversity Strategy (non-binding 2020 headline targets) as well as national environmental legislation including biodiversity conservation.

Finally, the industry has invested strongly in the use of forest certification schemes such as FSC and PEFC and further voluntary schemes. Through the chain of custody, it is proven that the wood originates from certified forests and that the wood from uncertified forests is also from controlled sources. 64,6% of wood used by the European pulp and paper industry comes from certified forests. Next to roundwood from the forest, by-products from the sawmilling industry are an important source of virgin raw material.⁷

Biomass carbon neutrality must be ensured

It is important that carbon emissions of bioenergy are accounted for somewhere and that there is no double counting. Emissions from the use of biomass are accounted for in the land-use, land-use change and forestry (LULUCF) sector and therefore not again in combustion. Accounting for biomass emissions both in and use and the energy sector would lead to double counting. Energy produced from biomass is thus carbon neutral, provided

⁵ Final Report by the Standing Forestry Committee ad hoc working group on Sustainable Forest Management Criteria & Indicators, July 2015

⁶ Forest Europe: State of European Forests from December 2015

⁷CEPI Sustainability Report, 2013



there is LULUCF accounting – which is currently the case in the EU⁸ - or the biomass is from sustainable sources (see above), where no land conversion takes place⁹ and where harvesting does not exceed the annual increment in the long term.¹⁰ Accounting rules have been agreed by the Intergovernmental Panel on Climate Change (IPCC).

The use of wood to produce energy is the final part of a carbon cycle that starts with photosynthesis, where trees absorb carbon. The cycle continues with the use of wood as a raw material, and the carbon is stored for the duration of a product's life. The cycle is prolonged by recycling the product to make new products several times. At the end of the product's lifespan, when the product is used as fuel for energy production, carbon is released and the cycle starts again. Where no land conversion takes place¹¹ and where harvesting does not exceed the annual increment in the long term this natural cycle should not raise any concerns, especially when compared to fossil fuels' impact on climate.

Potential challenges caused by the policy induced increase of bioenergy use in short time frames should be addressed

The sustainable forest management framework has evolved and strengthened over time balancing a market-based demand for wood products with the other environmental and climate functions of the forest.

More recently, the EU policy framework to support the use of energy from renewable sources has led to a strong increase of bioenergy use within short time frames. The increased demand has led to rising imports of wood including from origins outside the scope of Forest Europe and LULUCF accounting and reporting. To ensure the sustainability of the policy-induced increase of bioenergy use and wood imports for bioenergy purposes, the following issues must be considered:

- Does the need for wood biomass lead to any of the following critical consequences: resource depletion, land conversion, negative impacts on biodiversity?
- Is the direct burning of wood biomass an efficient use of a raw material that could first be used for higher value purposes?

How could monitoring, reporting and verification ensure carbon sustainability?

To address the increased use of wood for energy and to design a sustainable biomass policy framework for the post-2020 period, CEPI believes that the following criteria for the production of bioenergy counting towards EU renewable energy targets should be considered while taking into account the use of existing legal and market-based instruments at national, EU and global level.

Policy context

In its work plan 2016, the Commission announced the Energy Union Package. Following up on the Framework Strategy, the Package is composed of legislative proposals on electricity market design and the regulatory framework, including the review of the Agency for the Cooperation of Energy Regulators (ACER), and the revision of the Regulation on security of electricity supply, the revision of the Regulation on security of gas supply and the revision of the Decision on inter-governmental agreements; the effort sharing decision and integration of

⁸ Decision 529/2013/EU

⁹ With the exception of urban expansion, infrastructure building, etc.

¹⁰ In the EU, wood resources have been increasing. Source: Global Forest Resources Assessment 2015 by FAO

¹¹ With the exception of urban expansion, infrastructure building, etc.



land use, Land Use Change and Forestry Sector (LULUCF) into the 2030 climate framework; a renewable energy package (REFIT), including sustainability criteria for biomass, and an energy efficiency package, including energy efficiency for buildings (REFIT).

Awaiting the proposal from the European Commission, CEPI's position on bioenergy sustainability criteria presents a possible approach, which should be carbon related, include forest management indicators, and conversion efficiency, and address issues related to imports.