

In response to the EU-consultation on the EU-2020 strategy the members of the High Level Group Bio-based Economy and the Bio-renewable Resources Platform¹, both Dutch public-private frameworks of cooperation in the field of the bio-based economy, would like to propose:

An integrated approach on a European Bio-based Economy: Europe should determine an offensive strategy to develop and strengthen a sustainable European Bio-based Economy.

A bio-based economy comprehends a transition from an economy primarily founded on fossil resources, to one which is significantly based on bio-based raw materials.

Due to necessity to reduce GHG emissions caused by the use of fossil fuels, currently the overall trend in Europe seems to be a decrease in activities. This might ultimately result in long term stagnation of the European economy. Alternatively the Bio-based economy would allow Europe to undertake more activities whilst at the same time reducing GHG emissions. Taking the lead in a smarter greener economy would provide the basis for a new era of prosperity based on the full valorisation of all alternatives to fossil fuel. And if applied intelligently all the refinery techniques of the modern biorefinery would result in organic waste that would still be useful.

As mentioned by the Commission, in order to develop a new vision and direction for EU-policy we need to recognise that conserving energy, natural resources and raw materials, using them more efficiently and increasing productivity will be the key drivers of the future competitiveness of our industry and our economies. The challenge of becoming a smarter, greener and more competitive economy will require increased policy coordination.

In accordance with these key priorities for EU 2020 an integrated approach on a European bio-based economy allows Europe to draw up and implement a clear strategy at European level for the development and use of renewable resources not only for energy and bio fuels but also for the bulk and fine chemicals and materials industry. In fact many bio-based molecules are already “functionalised” (requiring less chemical transition steps), which will bring considerable economical and ecological advantages.

The current European bio-based economy and its further development shows a significant environmental, technological, social and economical potential, while facing opportunities and challenges. In order to develop these opportunities and address the challenges, key players and decision makers should discuss the main topics at hand in order to draw conclusions for future actions.

An increasing use of bio-based raw materials will require not only technical solutions, but also modifications to the infrastructure and logistics, as well as changes in public policy priorities, a strong engagement of the private sector and consumer behaviour. The incorporation of sustainable production within the whole value chain of biomass is essential for the development of a bio-based economy.

Biomass

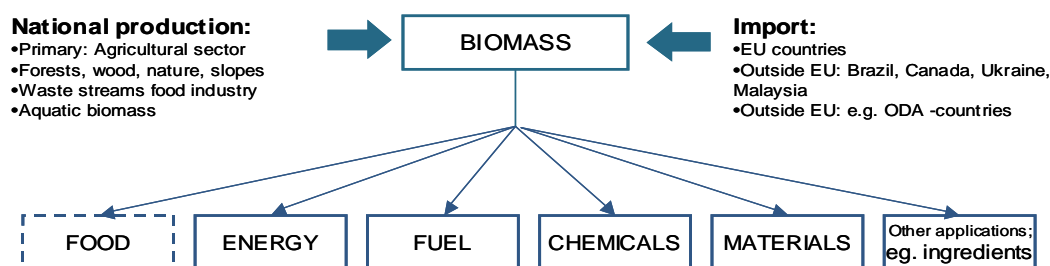
The global sourcing of materials, and foreseen tensions regarding their supply, requires a European strategy in which different domains are combined including agriculture, chemical and

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forest sectors, civil society, national governments and the scientific community. Large quantities of biomass will be required for food, feed and non-food applications. For example, the market of biomass for non-food applications (including biodiesel, bioethanol and biomethanol for transport, excluding biomass for the production of electricity and heat) is estimated at € 250 billion. Its technical market potential is expected to be €80 billion per year in 2020 (LEI/WUR, 2007). Apart from the fact that there is uncertainty on the availability of the worldwide potential, the biomass flows can also be accompanied by various risks concerning sustainability, market failures and not yet fully developed technology. Although yielding and developing European biomass resources should remain a priority, upstream agreements with non EU-countries of production could be one of the strategies to be explored upon. Such agreements should include criteria for sustainability of biomass production similar to those which will be implemented within Europe.

Value Chain of Biomass

A bio-based economy implies intelligent use of biomass for non-food applications in a global context. Biomass consists of various components, which after separation, can each be used in its own way. By applying the principle of cascade the use of biomass achieves a far greater impact and much higher economic value than without separating the various components of biomass. The essence of the value chain is to utilize biomass for different non-food applications while giving special attention to combining these applications with the production of food and feed, consequently using the by-products of biomass for energy, biofuels, bulk- and fine chemicals and materials. Using biomass for energy and fuel allows the set up for large-scale logistical chains in order to transport large volumes of biomass. At the same time there is a need for biomass for energy in decentralised plants in rural areas (biogas, fuel wood). Applications in the chemical and material sector require technology and innovations in order to produce high value added products from biomass.



All organic waste after it has been optimally used will be converted in biochar for the mitigation and sequestration of CO₂ and for the improvement of agriculture output. Improvement that will be needed due to the expected high demand for Biomass.

Drivers of a bio-based economy

Using biomass is one of the key ways of ensuring the supply of sustainable energy in the face of Europe's increasing dependency on imported fossil fuels. In addition it reduces GHG emissions in transport. Further, a bio-based economy offers opportunities for new methods of working, employment and international collaboration with worldwide sustainability as underlying basis. Another factor of concern is the fast economic development of other countries. In order to maintain our current competitive market position in the global bio-based economy we will need to adopt a strong and coherent innovating position in relation to the rest of the world. A logical way to proceed is to convert available biomass at its origin into higher densities (removing air/water) and

to refine the converted products in Europe in the same way as “traditional old fossils” are refined. Further, by using the available knowledge of products, processes and markets the EU should work towards new production chains, new technologies and cleaner processes in order to make maximum use of biomass, with maximum efficiency towards economic, environmental and social issues.

Sustainability

Sustainability of the global value chain should be incorporated in the development of a bio-based economy. Guidelines regarding sustainability are currently restricted to the mandatory blending of renewable energy for transport. In the end choices concerning sustainability are to be made in relation to overall sustainable use of land. The possible need for future legal instruments should also be examined in the field of food, feed, chemicals and materials as well as negotiated agreements of the industry in these sectors. Current discussions within the frame work of the Lead Market Initiative on bio-based products are preliminary to this.

Integrated approach

An integrated holistic approach by the Commission and the Council is required as a bio-based economy is concerned with a wide range of topics: climate mitigation and adaptation policy, security of energy supplies and aspects such as agriculture and forestry, trade and innovation². These are transgressing topics in which the Commission, together with Member States and other stakeholders concerned, has a distinct role.

A more coherent approach by the European Commission and the Member States would allow a higher ambition directed towards the development of a bio-based economy. The members of both the High-Level-Group Biobased Economy and the Bio-renewable Resources Platform, consider that the creation of an inter service task force on bio-based economy would initiate a favourable policy making environment for a bio-based economy. An approach for a bio-based economy should be pragmatic, integrated and offer real partnerships between businesses – including the different sectors involved -, civil society, national governments and the scientific community and consumers within the EU as well as between the EU and third countries.

Key elements of this approach are:

- Market demand and market development;
- Targeted research, training and innovation programmes with clear objectives; e.g. bio refinery;
- Development of technology;
- Clear and transparent multilateral framework on sustainability for all stakeholders concerned

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² Other topics are e.g.: economy and competitive advantage, knowledge development, development cooperation, food supplies, biodiversity, natural resources, waste management, rural development, biotechnology, (agricultural) logistics), transport fuels, public dialogue, consumer acceptance and support, legislation, standardization, labelling and regulation, research and innovation systems.