

Introductory paper on-line public consultation
"Bio-based industries, towards a public-private partnership under Horizon 2020 ?"

Bio-based industries, at the heart of the bio-economy

Europe is committed to excel in smart, inclusive and sustainable growth. In this context, the Europe 2020 strategy highlights the building of a **bioeconomy** by 2020 as one of the deliverables under its flagship initiative "Innovation Union". The Commission has recently presented the communication "Innovating for sustainable growth : A *bioeconomy* for Europe" ([COM \(2012\) 60 final](#)).

The on-line public consultation conducted in connection with the preparation of this communication found that a large majority (>85%) of respondents saw significant advantages in developing a European strategy on a sustainable bio-based economy as follows:

- Supporting bio-based markets and the creation of economic growth and highly-skilled jobs (88,3%)
- Fostering the move towards a zero waste society (90,4 %)
- Securing a sufficient supply of food and biomass (88,3 %)
- Integrated, sustainable agricultural, aquatic and ecosystem services (89,9 %)
- Strengthening the research and innovation base (85,7 %)

The above-mentioned communication also sets out a comprehensive bioeconomy action plan. The plan includes the establishment of a *public-private partnership* on research and innovation for **bio-based industries** as a means to promote the development of integrated and diversified biorefineries, including their biomass supply chains. Consequently, the aim of a public-private partnership has been proposed in Horizon 2020, the future EU framework program for research and innovation.

Europe needs to champion the use of sustainable bio-based resources as a major source of raw material for conversion into innovative industrial products and fuels/energy. This must be achieved without creating shortages in food and feed supply and in full respect of the environment. Several studies (e.g. by the European Environment Agency¹) demonstrate the potential to mobilise, in a sustainable manner, large volumes of non-food biomass in the EU as feedstock to support the growth of the bio-based industries. Europe's *bio-based industries* need to be technologically prepared and equipped to successfully address this challenge, along with all other participants in the value chain (e.g. farmers, foresters, waste managers,...).

An important goal is to expand the range and the volume of innovative products manufactured by the *bio-based industries* (including e.g. bio-based plastics, chemical building blocks, high-value ingredients for pharmaceuticals or cosmetics, advanced biofuels) from renewable biological resources (e.g. specialty crops, residues from agriculture, forestry, fisheries and the utilisation of biowaste). This will require the development of new types of biorefineries and the associated value chains as well as innovation within established bio-based industries with a long tradition of processing renewable biological resources (e.g. the pulp and paper industry, the starch and the food

¹ Estimating the environmentally compatible bioenergy potential from agriculture EEA Technical Report No 12/2007 How much bioenergy can Europe produce without harming the environment? EEA Report No 7/2006

industry). The pulp and paper and the starch industries have the potential to play a significant role in the innovation cycle leading to the successful development of an effective integrated biorefinery infrastructure in Europe. Furthermore, the chemical industry can play an important role by expanding its use of bio-based resources. The biotechnology industry will deliver key components for innovative new processes. For the EU food industry, there is significant potential to valorise biowaste fractions that are currently discarded and to develop for example new functional food types and additives with additional consumer benefits.

The development of *bio-based industries*, if successful, can bring a lot of rewards that concern many stakeholders: consumers who get access to new sustainable products based on renewable biological resources, bio-based industries that take technological and sustainability leadership and thereby build long-term competitive advantages; enhanced economic growth and new jobs in rural, coastal and industrial areas; new revenue streams for EU27 agriculture and forestry.

Implementing Horizon 2020 in relation to bio-based industries

The EU's future framework program for research and innovation, Horizon 2020, aims to build technological and sustainability leadership as a lever for industrial competitiveness on a global scale. In addition to delivering excellence in research and technology development, the aim is to deliver real innovation and to promote its deployment on a large scale.

Under FP7, the EU's currently ongoing seventh Framework Programme for Research, certain sectors pioneered the use of ***public-private partnerships (PPP)***, as a novel means to manage and implement EU Research Programmes. In the context of a PPP, both private and public sector contribute resources to support research and innovation activities, based on multi-annual research agendas. Examples of PPPs operating under FP7 include: European Green Cars Initiative, Factories of the Future, Innovative Medicines Initiative, Clean Sky, Fuel Cells and Hydrogen. The continued use of public-private partnerships is explicitly provided for under Horizon 2020.

A large group of stakeholders from the bio-based industries has shown strong interest in the creation of a new PPP in the area of bio-based industries and has expressed a commitment to contribute to its activities. The Commission is considering supporting a PPP in the area of bio-based industries, addressing specific parts of Horizon 2020 : "Sustainable and competitive bio-based industries" and "Alternative fuels and mobile energy sources". ([see p. 65 and 67 of COM 2011\(808\) final ; Commission proposal for establishing Horizon 2020](#))

In light of the above, an open stakeholder consultation is being launched with a view to soliciting comments and collecting inputs from stakeholders. This input will be used to assess and shape this potential initiative.