

29 September 2015

## Enabling SME Driven Innovation in the Bio-economy: from Concept to Reality

### Executive Summary

The added value of the biobased economy is the possibility to reduce dependence on fossil resources and introduce production processes based on renewable resources including waste. As such, the biobased economy has an important role to play in the circular economy which is based on the reuse of material. These two concepts are mutually reinforcing and both provide opportunities for innovation and improved sustainability.

SMEs are the key drivers for innovation in the biobased economy. However to exploit their full potential, some hurdles will have to be tackled. This project has analysed the most important bottlenecks, and is proposing policy recommendations to overcome them.

### Context and Importance of Policy Issue

- Main hurdles:
  - **Lack of access to money** for “proof of concept” activities, research and demonstration infrastructure and activities, and large scale facilities, including new production plants.
  - **No programs for next development stages after seed funding available**
  - **Inflexibility of public funding esp. for later stage development**
  - **Awareness and perception:** lack of confidence/positive media messages (eg biofuel discussion)/tangible products/demand-side issues (eg green procurement and no interest in premium price for more sustainable products)
  - **National/regional support:** difficulties to set up interregional collaborations
  - **Lack of harmonized international IP regulation,** high patent cost, long patent filing
- Root causes :
  - Biobased industry SMEs are high tech
  - Cost of R&D is high esp. compared to other high-tech areas e.g. ITC, return on investment often lower than in medical biotech. This hampers VC investments
  - Production cost for products from renewable are often higher compared to fossil-based chemicals. However, products have features which contribute to a better environment (lower GHG emissions, renewable, often biodegradable, less (hazardous) waste, often less energy consumption, ...)
  - Highly disruptive, Market still to be invented
  - No level playing field with bio-energy (for which several incentives and support measures exist) or conventional products (CO2 tax)...

- Changing opinions on sustainability, ecological, changing policy decisions

## Policy Recommendations

- Financial support for “proof of concept” activities, research and demonstration infrastructure and activities, and large scale facilities, including new production plants.
- More flexible funding mechanisms: individual solutions needed, as product and processes are highly individual (no “one fits all”)
- Include biobased in green procurement
- IP regulation in line with American: shorter filing, awards system, lower cost
- Internationally agreed sustainability criteria, assessment tools and certification
- Importance of sustainability features should increase, i.e. premium cost of products with better ecological features should be leveled out compared to eg petroleum-derived products.  
Internalization of environmental costs
- Level playing field among biobased products, in particular biofuel support. Higher value products should be stimulated as cascading implies burning as the last resort.
- National/regional collaboration should be made easier.