

### General input from SFI

- There is no mention of the recent very significant investment by Science Foundation Ireland into bioeconomy research. The following text should be added to Section 3 “What is the bioeconomy in Ireland?”.

The Bioeconomy Research Centre (BEACON) was funded through the 2016 SFI Research Centres Call and will officially launch in September 2017. This Centre represents a funding commitment of €14.2m (including overheads) from Science Foundation Ireland and a €6.2m funding commitment from industry partners. The BEACON SFI Research Centre will be a flagship project for the bioeconomy.

- Several Science Foundation Ireland research funding schemes are run in partnership with government Departments and agencies. For example, the Investigators Programme 2016 was run in partnership with Teagasc, the Geological Survey of Ireland (GSI), the Marine Institute (MI) and the Environmental Protection Agency (EPA). These partnerships facilitate interdisciplinary research in areas relevant to the bioeconomy. Science Foundation Ireland welcomes new partnerships with other funders and with industry partners, and could act as a central coordinator/reviewing service for bioeconomy research in Ireland.
- Overall, there is a **lack of reference to a research and innovation strategy** within the document – Research & Innovation will be the driving force for a bio-based economy in Ireland. This is mentioned in the introduction, which stresses the need for “*collaboration within the research industry*”, but should form a greater part of the policy.
- An integrated and coherent approach in developing the policy framework should be evident. For example, Italy have an all-government approach to bioeconomic policy in place.
- Given that Ireland does not produce enough biomass to generate biofuels on a large enough scale, there is a risk in having a policy which focusses too much on biofuels/bioenergy. As such it may be more optimal to focus on the **generation of high value and low volume products** from unavoidable waste streams.
- **Resource efficiency and guidance on resource management** needs to be emphasised and it would be useful to re-examine the definition of ‘waste’ in advance of policy publication – we want to reduce, not promote, waste generation.
- The critical role that the bioeconomy plays in rural Ireland should be further emphasised in the national policy statement. It is not by chance that 9 out of 10 companies involved in the Science Foundation Ireland BEACON Research Centre are based in rural Ireland. Agri- and food-industry by-products can be turned into high value products. As such there is an opportunity for these rural companies to diversify, create new value streams and stimulate job creation.
- Drivers are needed to stimulate market demand i.e. market pull. A policy statement that links research from concept through pilot and demonstration scale is critical to speed up the market entry of products and processes

**A number of specific questions are presented in the document, some of which are addressed below:**

- Does the broad definition outlined above adequately encompass the opportunities presented by the bioeconomy?
  - Bioactives and residues are not explicitly mentioned in the definition and should be referenced

- How can a high-level policy statement on the bioeconomy assist in progressing the development of the priority value chains identified?
  - This assumes that the BioÉire project has identified the correct priority areas which may or may not be the case. This should be considered.
- What existing strategies shape the Irish bioeconomy?
  - A policy statement that promotes innovation, high value products, resource efficiency, and rural development will help to promote the bioeconomy in Ireland. Innovation can drive diversification.
  - A coherent policy framework is needed to enable the development of the bioeconomy. A statement that links research from concept through pilot and demonstration scale is critical to speed up the market entry of products and processes.
  - Sustainability and circularity are critical to the bioeconomy.
  - The social, economic and environmental benefits and risks of the bioeconomy need to be fully explored.
- What lessons can Ireland take from the European approach, including to the Circular Economy?
  - Ireland needs to mimic the EU model of support bridging projects that allow pilot, demonstrative and flagship biorefinery activity
  - The development of the Bioeconomy and circular economy in Ireland should be framed together
- Given the cross-sector nature of the bioeconomy, how can a national policy statement best support development?
  - There should be an integrated policy, and this would require a Taoiseach-led initiative (following the Italian model). Participative governance will also aid development across sectors. The creation of new value chains will require participation across sectors.
- Can we identify a common set of principles, including in particular the application of the cascading principle, which will assist in the development of both the bioeconomy and circular economy?
  - Bio-based value chains are and will be complex and their impact is difficult to judge without specific analysis of the life cycle of that value chain. Thus, each value chain should adhere to the principle of sustainability which guides the circular economy. One must not curb the development of the bioeconomy just because it does not fit within the current circularity model.
- How can a national policy statement support local and regional cooperation around the use of renewable biological resources?
  - A re-examination of the definition and what constitutes waste is needed. Such an exercise can also promote earlier intervention in the management of a resource to avoid it becoming a waste. Clear guidance on how to avoid a resource becoming a waste is needed.

- How can waste policy, including an examination of the definition of waste, best support developments in the bio and wider circular economy?
  - A national policy that promotes regional and local development and supports innovation in the bioeconomy in the regions is critical.
- How can we stimulate market demand for bioeconomy products? What is in it for the consumer?
  - Higher quality food and feed
  - Ingredients promoting human health
  - Job creation
  - Career development
  - Rural regeneration
  - Environmental benefits
- What is the most appropriate mechanism to coordinate development and monitor progress?
  - Ireland will need an all of government approach and a multi-stakeholder, multiagency oversight/cooperation to monitor progress.