

## Public Consultation

### **1) Are you satisfied with the outlined Pillars represent the structure of the Irish bioeconomy?**

I believe the seven pillars of the Irish bioeconomy certainly meet expectations. The pillars are all based around a central pillar governance and cannot excel individually without influence from another pillar (Government of Ireland, 2022). These seven pillars will be the backbone of Ireland's Bioeconomy growth and development. They will most definitely satisfy as the structure for Ireland's Bioeconomy.

### **2) Are there specific key performance indicators and/or targets the bioeconomy should be setting out to achieve to measure its implementation?**

Yes well, I believe the government should have targets they want the bioeconomy to achieve. These targets should provide us with the knowledge needed to see the full impact of the bioeconomy. These targets will also gather the public's attention to whether or not the development and investment placed in Ireland's Bioeconomy has been successful or does there need to be an investigation on how to better it. One target from the government's Bioeconomy Action Plan consultation that should be considered is "developing a climate-neutral and decarbonised economy by 2050" (Government of Ireland, 2022: 5).

### **3) What other key issues should Governance Pillar deal with?**

Personally I do not think the governance Pillar needs to deal with other key issues. These are set in place to tackle "key issues across all other Pillars" (Government of Ireland, 2022: 12). This Pillar is the central pillar and will deal with all issues related to the Bioeconomy and its consequences.

**4) What key issues should the Research, Development & Innovation Pillar deal with?**

The Research, Development & Innovation Pillar deals with issues related to these three different aspects. Issues that this pillar will deal with will mainly include funding and investment. The pillar is tasked with finding the “best way to harness national and EU funding” (Government of Ireland, 2022: 13). Apart from monetary issues the Pillar will look at issues such as the required expertise and facilities required to carry out research. This Pillar addresses more than just the economical challenges facing the development of the Bioeconomy it also considers the societal issues like having an effective co-operation among different divisions.

**5) How could the RD&I Bioeconomy approach be best structured to support the enhancement, application and scaling up of biological knowledge and bioeconomy?**

The RD&I Bioeconomy must be linked with the Industry & Enterprise Pillar to support the enhancement, application and scaling-up of biological knowledge and bioeconomy solutions. By these two pillars being connected it will help grow the innovation and enterprise in the bio-economical industry using the investments received by the RD&I pillar. These two pillars working in parallel help to grow the advancements in bioeconomy and to make great strides in making Ireland one of the global leaders.

**6) What key issues should Nature, Climate & Circular pillar deal with?**

The issues facing the Nature, Climate & Circular pillar are “end of waste, cascading use, valorisation, resource efficiency and sufficiency and consumption patterns” (Government of Ireland, 2022: 14). These numerous issues surrounding this pillar are based on the circular economy. Venkata Mohan et al., 2016; Zabaniotou and Kamaterou, 2019 (as cited by Campbell-Johnston, Vermeulen, Reike, and Brullot, 2020: 4), stated that the driving forces towards a circular bio-economy are “cascading and valorisation of bio-based wastes”. Nature, climate, and circular tackles with products end-of-life product management, can they be recycled and used again in the circular economy. This pillar deals with this issue implementing new materials and business models suitable for cascading and valorisation.

**7) What key issues concerning consumption patterns need to be examined to close the gap between sustainable supply of biological resources and demand?**

Straight away consumption patterns are a huge issue and only widens the gap between sustainable supply of biological resources and demand. Certainly, in recent years a huge issue with consumption patterns would be the single use mindset. Currently the world is living with unsustainable consumption patterns. The Environmental Protection Agency (as cited by Cave, 2016: 21), stated that these patterns must each be addressed individually, for example, food waste patterns, “In Ireland we waste about 800,000 tonnes of food each year”. This pattern is not sustainable, actions must be taken to reduce this number and close the gap between sustainable supply and demand. Likewise with clothes consumption the same pattern is seen, clothing is often only worn once before being thrown out. These are major issues that need to be addressed by the nature, climate, and circular pillar.

**8) What key issues should the Agriculture, Food & the Marine Pillar deal with?**

The key issues surrounding this pillar is the legal requirement for Ireland to achieve climate neutrality by 2050. This pillar will look at unlocking the path towards this goal. It will deal with multiple different avenues such as “secondary bio-based feedstocks, through cascading and optimised valorisation of all the biomass components” (Government of Ireland, 2022: 14). This Pillar will have a lot of challenges head of it especially with agriculture sector being one of our largest greenhouse gas (GHG) producers.

**9) What key issues should the Communities Pillar deal with?**

The Communities Pillar is tasked with creating cooperations within society in order for the bioeconomy to develop. This Pillar will be involved in policymaking and “seeking to combine universities-industry-government-public-environment interactions” (Government of Ireland, 2022: 15). This pillar will harmonize any discrepancies between these sectors mentioned above and will provide a smooth transition between one sector to the next.

**10) Are local and regional policies ensuring the consideration of bioeconomy opportunities are in scope, and are coordinated approaches on such services in place at regional assembly and local authority level?**

I'm unaware of what local and regional policies hold for bioeconomy opportunities, this issue falls under the Communities pillar as local and regional are both under government policy. So the local policies will be dictated by the government policies.

**11) What key issues should the Industry & Enterprise Pillar deal with?**

This pillar deals with a wide range of issues linked with the RD&I pillar in terms of innovation performance of bio-based products. The industry and enterprise pillar will work to increase technological advances and encourage new businesses to adhere by the bioeconomy policies put in place. There will also be increased importance placed on reducing the greenhouse gas emissions caused by industry as it's currently responsible for 11.5%. (Government of Ireland, 2022:) A look towards renewable energy sources and sustainable resources will be needed.

**12) What lead market initiatives could support entrepreneurship, development, innovation and the commercialisation of bio-based products, processes, information, and services?**

European policy focuses on 6 different sectors which aids the development and commercialisation of bio-based products, processes, services, and information. These 6 sectors include "eHealth, protective textiles, sustainable construction, recycling, bio-based products and renewable energies" (European Commission, as cited by Aguilar, Bouchereau, & Matthiessen, 2009: 383). These sectors along with the policies placed within each sector will allow the growth of bio-based products both commercially and innovatively. Aguilar, Bouchereau, and Matthiessen (2009: 384), stated that Lead Market Initiatives introduced actions "which should lower barriers to bring new products or services onto the market".

**13) Due to the requirement for capital and operational investment what innovations aimed at financing infrastructures and technical and economic evaluation of innovation are necessary to scale up the bioeconomy?**

A large amount of investment needed for development of the bioeconomy comes from different groups such as the government, private sector, public sector and EU grants. Other than these grants and investments I'm unsure as to other innovations aimed at financing infrastructures and technical necessary to scale up the bioeconomy.

**14) What key issues should the Knowledge & Skills Pillar deal with?**

One issue effecting the Knowledge and Skills Pillar is people's mindset. Across Ireland there are many different mindsets and opinions surrounding bioeconomy and the path to take regarding its development. "Issues such as the creation of a more inclusive society" (Government of Ireland, 2022: 18). Government of Ireland (2022: 18), further stated that this group also identified recommendations for all research actors to consider to ensure research is more impactful".

**15) Can the regional skills and regional enterprise approaches better support bioeconomy development?**

Regional and local enterprise can greatly benefit bioeconomy development. Providing investment for bio economic development into an area can greater improve the knowledge around bioeconomy.

**16) An important part of developing the bioeconomy is to determine the most appropriate practices, treatments, technologies, logistics and business models to valorise ecosystems services, primary and secondary biomass resources. What role do advisory systems play in addressing this challenge?**

Advisory systems are key to addressing this challenge stated above such as treatments, logistics and business models. They can provide aid by technical support they can give to companies on the appropriate practises, treatments and business models. They can also give support regarding both primary and secondary biomass

resources. Once these systems have advised they must monitor the changes that occur due to their advice and conduct research to better understand the consequences of their actions.

**17) Are there any further Pillars/Issues which this Action Plan should address?**

I believe the action plan has used the seven pillars with great effect to cover any issues related to the bioeconomy. Therefore, there is no need for additional pillars as they are broad enough to cover any issue which might arise, or even any new issues will most likely be covered under one of the pillars.

**18) Indicate what the top five priorities for action in the bioeconomy over the next three years should be?**

Personally, over the next five years I would like to see a real increase in investment and research. The research, development, and innovation pillar and the industry and enterprise pillar will be key in the development to this whole operation. This step will allow more and more investment and research if successful. Next, a great awareness of the bioeconomy and Irelands involvement in creating a bioeconomy must be show casted to the public. This is an area that the communities pillar will cover. A greater knowledge of the bioeconomy allows for greater development as there is more awareness towards the matter. Finally, a reduction in greenhouse gas emissions due to industry and Agriculture, Forestry, and the Marine pillar. Hopefully stricter policies will be in forced in both of these areas to radically reduce emissions and increase the use of biological products.

## Reference List

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