

Consultation on the Bioeconomy Action Plan

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I am currently a student at Dublin City University(DCU) studying Mechanical and Sustainability engineering. My course has a strong focus on energy production, decarbonisation, and how products that we manufacture can affect the environment.

I welcome this public consultation on the bioeconomy action plan as it is very important that the bioeconomy is developed in a sustainable manner, supports the move to a circular economy, and helps reach our climate goals by supporting the move to renewable materials.

Comment on the National statement on the bioeconomy document

I found that this document does highlight the potential for the Bioeconomy to help actors/sectors to diversify and generate more income through repurposing waste material such as in the Glanbia example, and in doing so support the move to a circular economy.

But I found the document as a whole to be very generic and vague in explaining what the bioeconomy is. It mentions the growth or potential for growth in different sectors and lists the economic output, the best description I gathered was in section 1.1 “The bioeconomy emphasises the importance of using an increasing list of renewable biological resources and in some cases what would have hitherto been discarded”. As the document goes on it repeats how much potential there is in the bioeconomy to help with sustainability goals by using biological resources and the potential economic value for sectors, but the term biological resources is very vague. Considering that the bioeconomy is relatively new and unknown to the general public, I believe a better description of the bioeconomy is needed in this document so that readers know what the bioeconomy actually is and can then understand why there is so much potential, also, more examples of potential developments in specific areas which relate to the bioeconomy would give the reader a more rounded understanding.

Responses to public consultation

Q1

Yes, I am satisfied, the various pillars do cover the different aspects of the bioeconomy that need to be addressed for its development.

Q2

Monitoring the added economic value is a good measurement of the bioeconomies implementation/ growth. But I believe it should not all be determined by growth, the bioeconomy can help with the implementation of the circular economy, and this in itself shows the need to move away from the current view that growth needs to increase exponentially, which encourages overconsumption and wastefulness.

Monitoring the amount of waste material that is reused, which otherwise would be dumped could be another indicator as this could show the bioeconomies contribution to the circular economy and the decrease in waste material can have value other than just economic value.

Q3

I believe the Governance pillar covers the key issues. A focus should be put on communicating the bioeconomy to the general public and emphasis should be put on doing so in an understandable and effective manner.

Q5

Beyond my knowledge.

Q6

As mentioned in the description, it is extremely important that the Nature, Climate and Circular Pillar deals with and monitors the expansion of the bioeconomy to make sure that no ecological boundaries are crossed. The fishing industry is an example where the increase in demand for fish has led to overfishing and damaged the marine ecosystem and caused the collapse of coastal ecosystems(<https://www.science.org/doi/10.1126/science.1059199>). The development of the bioeconomy can have a positive impact for society and the economy, but this must stay within ecological boundaries. This pillar and the Governance pillar should overlap strongly to make sure a healthy bioeconomy is developed.

Q7

By promoting the bioeconomy, awareness also needs to be raised with the general public on the issue of over consumption due to our individual choices. Food waste through agriculture, fisheries, and consumer waste is an example which can be addressed when it comes to consumption patterns, “Ireland generates approximately 1 million tonnes of food waste every year”(<https://doi.org/10.1016/j.jenvman.2022.114498>). This needs to be addressed at the production level as well as making consumers more aware of the negative impacts of food waste, it takes energy to produce food and throwing away good food wastes the energy used to produce it. Increasing the output of the bioeconomy will increase biological resources use, consumption and waste should be addressed to make sure extracted resources are not wasted.

Q8

As mentioned in the Pillar description, a key issue that should be focused on is the transition to regenerative farming, the research, development, and innovation pillar can also play a big role in this area.

A study in the Netherlands found that the transitions to regenerative farming can improve the environmental performance of a farm, but tailor made solutions are needed for different farms(<https://doi.org/10.1016/j.agsy.2022.103518>). Through the Governance pillar farmers will need to be supported through this transition by ways of grants, research and educational support to help them move to a new way of farming.

Q9

Not within my area of knowledge. I know very little of how local authorities operate to recommend how they could deal with issues in the bioeconomy. For community members themselves, it is always good to have buy-in from locals for an initiative, but I do not have the knowledge to advise on how to go about achieving this.

Q10

This question is not within my area of knowledge, I would comment though that local authorities need to make more of an effort to communicate with the local community to make them aware of their work. I can only speak personally in this respect but I myself only see outreach to the public from my local authority when there has been an electricity or water outage, I can not tell you what type of plans they are implementing to link in and achieve any government targets let alone with regards to the bioeconomy.

Q11/13

This pillar needs to support industry in the transition to bio based solutions, financial support is key to assisting this transition, similar to the grant system for taxi drivers to transition to electric vehicles, this approach needs to be applied in industry to encourage companies to move to more sustainable bio based products where they can.

(<https://www.gov.ie/en/press-release/f1623-up-to-25000-for-taxi-drivers-to-buy-electric-vehicles/>)

As said in the description, this pillar should be linked with the RD&I Pillar. The Pharmaceutical industry is a good example of where research and innovation are strongly linked to the industry, support and incentives should be given to companies to incentivise the move to more bio based material by valorising waste products or changing material in current products, this should be a key issue addressed by the industry and enterprise pillar with help from the RD&I pillar.

The French Pharmaceutical company Pierre Fabre claims that 70% of its revenue is made from products containing active ingredients that come from the natural world, as of 2019 four new organic or eco-extracted plant-based active ingredients are developed every year by the company.(<https://www.pierre-fabre.com/en/our-commitments#Innovate>) This helps the company move away from synthetic ingredients to bio based ingredients. This kind of innovation should be supported and encouraged.

Q12

Not within my knowledge. I do not know any lead market initiatives or what they are.

Q14

This pillar should deal with the educational aspects of the bioeconomy. The bioeconomy will need a workforce with new skills, as mentioned in Q8, for farms to transition to regenerative farming they will need to learn a new way of approaching how they farm, this will need to be supported through the sharing of new knowledge. This pillar should also cross over with the RD&I pillar, as new techniques and methods are developed through research and innovation, it is important that this new knowledge is shared.

Q15

Yes the regional skills and regional enterprise approaches can help the development of the bioeconomy. All areas of the country can benefit from the bioeconomy, but certain areas may be more suited to specific industries. There are 9 regional areas of Ireland (<https://www.regionalskills.ie/>), institutions in these areas can help develop the bioeconomy by running courses that relate to the bioeconomy, I myself am on a mechanical and sustainability engineering course which is funded by the governments future programs, these programs can only access the futures programs funding if they relate to tackling climate change. This same system could be applied to different regions of Ireland, targeting courses that best suit the opportunities for the bioeconomy in that region. This same concept can be applied to Regional Enterprise.

Q16

I think an advisory system on the bioeconomy is very important, there are already advisory systems within sectors of the bioeconomy, for example, the Farm Advisory System (FAS).

(<https://www.gov.ie/en/publication/b41a6-farm-advisory-system/>) FAS advises farmers on a range of matters, one of which is to help farmers meet their obligations and avoid financial reductions under various EU Schemes, but this is not focused on the bioeconomy.

The Bioeconomy advisory system should be made up of academics and industry partners, they should advise on what practices and processes in a sector are initially best suited to the development of the bioeconomy and how to achieve these changes while taking into consideration the effects on ecology and the biodiversity of the local area.

Q17

I believe the action plan through the current pillars covers the issues that need to be addressed in the bioeconomy.

I would suggest that the potential of the bioeconomy to help with tackling the climate crisis as well as supporting the economy needs to be communicated to the general public to gain support for the bioeconomy, I myself had never heard of the bioeconomy until recently and when I asked family members and friends if they knew what it was they all said no. If the public buys into the bioeconomy and they want to see products that come from a biological and sustainable source, this will also put pressure on industry to adapt to customers' wants and needs.

Q18

Below are four priorities for action that I believe should be taken in the bioeconomy in the next three years.

1. Repurposing and valorisation of waste - reducing waste should be a priority as the processes that generate waste are already developed, repurposing this will show how the bioeconomy supports the environment and the circular economy by reducing the amount of waste that ends up in landfills, incinerators or in our oceans and rivers.
2. Promoting the benefits of the Bioeconomy to the public - As mentioned in Q17, having buy in from the public is important as consumers' choices affect how industry reacts to these choices.
3. Funding courses that support the bioeconomy - as the bioeconomy develops it will need a skilled workforce to support it, courses should be developed now so this work force can be accessed in the future.
4. Setting up an advisory board - The bioeconomy crosses over so many sectors and has so much potential, setting up an advisory system to advise on the best practices is important.
5. Research into what sectors have the most potential to kick start the bioeconomy - The bioeconomy crosses over so many sectors and areas of society, it is important over the next three years to focus on industries that have the best potential to develop the bioeconomy

initially, then expand out into more complicated sectors that require much more research and innovation.