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Re: Consultation on National Statement of the Bioeconomy

To whom it may concern

We thank you for the opportunity to contribute comments and recommendations for consideration to the Discussion Document on the National Statement on the Bioeconomy.

The Environmental Research Institute (ERI) at University College Cork is an internationally recognised Institute for environmental, marine and energy research dedicated to the understanding and protection of our natural environment and to developing innovative technologies, tools and services to facilitate a transformation to a low carbon, resource efficient society. The ERI incorporates a number environmental research centres including Marine and Renewable Energy Ireland (MaREI), UN Environment GEMS/Water Capacity Development Centre, Aquaculture and Fisheries Development Centre (AFDC) and the Centre for Research on Atmospheric Chemistry (CRAC). The Institute has substantial research activity within the bioeconomy area including biofuels (SFI MaREI Centre), sustainable materials (SFI AMBER Centre), sustainable agriculture, aquaculture, bioeconomy financing, and sustainability transitions. Circular economy research is a core challenge within the Institute's 2018-2022 Strategic Plan.

In response to the call for feedback on the National Statement on the Bioeconomy, the ERI has consulted across its research base and has set out on the following pages a number of comments and recommendations on the Strategic Plan. The Institute compliments Department of the Taoiseach on this initiative, and looks forward to making a substantial contribution to research and innovation for developing Ireland's bioeconomy in the coming years.

If you should wish to discuss this submission further, please do not hesitate to contact us. We would be happy to provide further information or to meet with you.

Yours sincerely,

Sarah Culloty.

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ERI COMMENTS ON DISCUSSION DOCUMENT ON THE NATIONAL STATEMENT ON THE BIOECONOMY

GENERAL COMMENTS ON THE NATIONAL STATEMENT ON THE BIOECONOMY

The ERI, its Centres and research groups welcome the opportunity to comment on the National Statement on the Bioeconomy.

Whilst the National Statement on the Bioeconomy is welcome, it is a little introspective and potentially does not have enough vision and ambition.

There is insufficient consideration of the potential for production of high value bio-products – e.g. flavours, speciality chemicals, nutraceuticals, pharmaceuticals. These should be an important part of the future and while they could use waste streams, their value means that other nutrient sources can also be considered. Because they are high value and largely dependent on new technologies (e.g. synthetic biology), they are not dependent on a large indigenous manufacturing base – it can be built.

The concept of a biorefinery is not clear within the document (maybe for biofuels but not for other bioproducts).

The word biotechnology does not feature enough. There should be a clear recognition that developing a bio-based sector is largely underpinned by biotechnology and the disciplines that form that (including biologists, chemists, engineers, etc.).

The National Statement needs to address the issue of competition for renewable feedstocks for food, materials and energy. There is no reason why the use of the feedstocks for food, energy and materials cannot be complementary (within a "cascading" principle) but this needs to be clarified and we need to avoid a situation where feedstocks for bioenergy (for example) are seen as competing within other uses.

The focus on the circular economy within the document is welcome. The Department of the Taoiseach might consider re-orienting this document to a National Statement to the Circular Economy as most of the principles are aligned with the concept. Scotland has shown the lead in this area and have developed a leadership in the area at European and international level. Circular economy goes beyond resource efficiency so we need to think about how we can help new and existing businesses transform their business models and production processes aligned with the principles of the circular economy.

The document should give some consideration to the metrics which can measure activity within the Bioeconomy.

It is not clear what a National Statement is, and how this differs from a Strategy for the Bioeconomy that many other countries have.

It is not apparent how the National Statement on the Bioeconomy links with and supports other national strategies for agriculture, food, fisheries and marine.

COMMENTS ON THE QUESTIONS FOR THE NATIONAL STATEMENT ON THE BIOECONOMY

1. Does the broad definition outlined adequately encompass the opportunities presented by the Bioeconomy?

The definition of the bioeconomy as outlined in the National Statement encompasses traditional activity in industries such as agriculture and fisheries. The definition as stated may be too broad as it is clear from the remainder of the statement that the main focus of the actions and activities envisaged under the bioeconomy are about recycling, renewable feedstocks, circularity and sustainability than traditional agricultural and fishery industries.[1]

In an overall sense, the emphasis is somewhat narrow and focuses main on one aspect of the bioeconomy which could broadly be considered the circular economy, using waste streams, etc. That is all valid and should be included but it is putting the emphasis on the more obvious aspects and on what are also likely to be the lower (commercial) value parts of the bioeconomy. It is not just the “value chains”

The definition should emphasise the replacement of fossil fuel based products with renewable feedstocks and the reuse/recycling of waste materials into value-added products in a circular economy approach. We need to start looking at "waste" as a valuable resource, which can be recovered, recycled and re-packaged.

A definition might consider including the text referencing the development of a platform of new industries and products based on renewable bio-based materials that are bio-degradable, non-toxic and have low carbon and material intensity.

The bioeconomy needs a holistic approach whereby the continuum between terrestrial, freshwater and marine ecosystems are recognised a basis for food production in each of these biomes. We should not treat theM as separate silos.

There is a need for a common language and definition to avoid bioeconomy getting muddled with other concepts such as circular economy, green economy, clean-tech, etc. The term “bio-based products” is confusing - a bio-based product is not necessarily sustainable.

2. How can a high-level policy statement on the bioeconomy assist in progressing the development of the priority value chains identified?

2a. A dedicated national fund for research, development and demonstration on the valorisation of waste streams and the production of biomaterials, biochemicals and bio-energy should be considered. This should fund partnerships between industry and academia to produce value-added materials from waste streams.

Sustainability should be a core principle of the bioeconomy. How can we ensure that products developed within the bioeconomy are more sustainable that existing products (such as through life cycle analysis)?

There is a general lack of awareness of the potential of high value materials from secondary waste streams. The National Statement may go some way to raising this awareness but more needs to be done.

3. What lessons can Ireland take from the European approach, including to the Circular Economy?

Specify the objective not the waste stream e.g. how can we replace high value imports with products developed from renewable or waste resources in Ireland?

4. Given the cross-sector nature of the bioeconomy, how can a national policy statement best support development?

A national policy statement can best support the development of the bioeconomy in Ireland by providing a coordinated approach and a higher profile for this area of strategic opportunity both nationally and internationally. The policy statement should be accompanied by a series of actions which are resourced and annual SMART targets which can be measured and monitored.

A comprehensive review of the various fossil fuel subsidies / tax reliefs should be conducted to understand how these contribute to fossil fuel lock in and promotion of the status quo where agents in the bioeconomy are not incentivised to promote sustainable production of renewables resources from land, fisheries and aquaculture and their conversion into food, feed, fibre, bio-based products and bio-energy. As a first step, the various exemptions, reliefs, accelerated capital allowances, research and development allowances, excise, rates, income and capital gain tax treatment of the fossil intense sectors in Ireland should be examined. The current scheme for scheme for Accelerated Capital Allowances for Resource Efficient Equipment (http://www.seai.ie/energy-in-business/accelerated-capital-allowance/) introduced in 2008 Finance Act should be reviewed and extended and more widely promoted to corporates. The Employment and Investment Incentive Scheme (EIIS) should be promoted to incentivise investment in the bioeconomy subject to State Aid rules. http://www.revenue.ie/en/tax-professionals/tdm/income-tax-capital-gains-tax-corporation-tax/part-16/16-00-10.pdf

5. 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?

The principles of the circular economy and waste hierarchy should be applied to the Irish bioeconomy.

The Ellen MacArthur Foundation has developed a set of core principles for the circular economy which have been used by the European Commission and could be adopted by Ireland

https://www.ellenmacarthurfoundation.org/circular-economy/overview/principles

All efforts should be made to replace products currently produced from fossil fuels with products produced from renewable biological sources and that those products should have low carbon and material intensity.

Possible principles include (i) ethical (ii) sustainable (iii) supports biodiversity and (iv) local and circular

6. How can a national policy statement support local and regional cooperation around the use of renewable biological resources?

7. How can waste policy, including an examination of the definition of waste, best support developments in the bio and wider circular economy?

The State should consider a competitive research programme focused around innovative and potential commercial ideas for valorisation of large volume waste streams e.g. dairy industry wastewater, pharma wastewaters, agricultural wastewaters and run-off, fisheries/aquacultures waste streams, wood waste, etc. The programme might focus on one wastewater at a time.

The issue of waste classification of waste is a significant barrier to valorisation of waste and needs to be urgently addressed.

There is a need to strongly encourage cross-industry collaboration on issues relating to common waste streams. IP consideration often limit attempts for industries to work together – can this be addressed?

There needs to be more successful demonstrations of reuse of biological resources and waste streams from one sector to another.

8. How can we stimulate market demand for bioeconomy products? What is in it for the consumer?

Bioeconomy products need to be cost-competitive. In a circular economy approach where wastes can be re-used this means that the processing of the waste streams need to be less that the processing of existing, equivalent raw material streams. It is important that an overly burdensome regulatory approach to waste reuse is not pursued by the State. Tax credits for waste reuse should also be considered (like carbon credits*).*

Supply chain issues must be carefully monitored to ensure a reliable supply of waste streams to develop new products (waste streams should be local and need to avoid importation of wastes).

9. What is the most appropriate mechanism to coordinate development and monitor progress?

Annual conference on bioeconomy highlighting success stories. It is important that an all-inclusive approach is adopted at the outset.

10. Are there any other issues to be addressed through a national policy statement?

The role of stakeholders and communities in the development of the bioeconomy is not given sufficient attention within the document. For example, the development of large bio refineries in rural areas may counter opposition without engagement with local communities – some consideration needs to be given to this element within the document.

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