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Sent: Friday 11 June 2021 17:07
To: circulareconomy
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Subject: Circular Economy Strategy Public Consultation - Response from TU Dublin
Attachments: CE Response TU Dublin 06 2021.pdf

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Circular Economy Strategy Consultation
Circular Economy Division
Department of the Environment, Climate and Communications

To Whom It May Concern:

I am pleased to enclose a response to the public consultation on Ireland's First Whole-of-Government Circular Economy Strategy from TU Dublin, with input from our Environmental Sustainability and Health Institute and the Grangegorman Development Agency.

Our submission comprises comments and feedback on the consultation questions. We also include a number of Case Studies on circular economy initiatives for consideration and possible inclusion in the final version of the Strategy.

Should you require any further information on any aspect of the question, please do not hesitate to contact the undersigned.

Kind regards

Brian O'Neill



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Is ó OT Baile Átha Cliath a tháinig an ríomhphost seo. Má fuair tú an ríomhphost seo trí earráid, scríos de do chóras é le do thoil. Tabhair ar aird, mura tú an seolaí ainmnithe, go bhfuil dianchosc ar aon nochtadh, aon chóipeáil, aon dáileadh nó ar aon ghníomh a dhéanfar bunaithe ar an ábhar atá sa ríomhphost nó sna hiatáin seo.

Response to the Department of the Environment, Climate, and Communications in response to its Public Consultation on the Proposed Whole of Government Strategy for a Circular Economy

Technological University Dublin welcomes Ireland's first Whole of Government Strategy on the Circular Economy and the opportunity to respond to this Public Consultation. As Ireland's first Technological University, TU Dublin seeks to be a beacon for sustainability and has placed this at the centre of our Strategic Plan *Strategic Intent 2030*.

TU Dublin recognises its special role in helping to address the challenges of climate change and sustainability. It wishes to ensure that all students graduate from TU Dublin with a greater understanding of the sustainability challenges and possess the expertise and commitment to help find solutions for tomorrow's generations. The University aims to build and operate its campuses as living labs that support teaching, research and innovation and that contribute to the well-being of every member of its immediate and extended community – and ultimately to the health of the planet.

TU Dublin continues to review measures to reduce the use of natural resources and the environmental impact of air, land, and water pollution caused directly or indirectly by the University's operations. This activity will be benchmarked against international norms and the university will work to ensure that aspects relating to environment sustainability are considered in all relevant decisions. It will also ensure that sufficient resources are allocated to the continuous improvement of environmental performance.

TU Dublin intends to continue to work collaboratively with the student body, industry, the local community and other stakeholders, to seek to broaden its impact and enhance its environmental work.

The Environmental Sustainability and Health Institute (ESHI) at TU Dublin is a dedicated national translational research platform, based on collaboration between the Technological University Dublin, the Health Service Executive (HSE), Dublin City Council (DCC), and the University of Ulster (UU) building national and regional capacity and capability.

ESHI is uniquely positioned to facilitate an interdisciplinary and cross-sectoral approach to sustainability and circular economy issues, integrating academic research with the knowledge and expertise of relevant professionals to generate collective responses to public health issues. Building upon existing education and research expertise, in addition to collaborations and strategic partnerships with multi-sector stakeholders, researchers at ESHI develop evidence-based interventions addressing environmental health problems.

The Grangegorman Development Agency is a government agency charged with redevelopment of the Grangegorman Campus, formerly within the curtilage of St. Brendan's

Hospital. Grangegorman itself is an inner city area on the Northside of Dublin. Grangegorman, at 29 hectares, is the largest undeveloped site in the City of Dublin.

In the following, we outline our responses to some of the main questions presented in the Department's Consultation Paper. We also respond to the Call for Case Studies with a selection of relevant initiatives on behalf of TU Dublin and Grangegorman Development Agency.

1. Do you agree with the draft Strategy's proposed key objectives? In your view, are there further or alternative objectives that should be included?

We believe the proposed whole of government approach is the correct approach and we welcome the ambition to adopt leadership role in the international arena in this field. We would make the following recommendations to strengthen this approach:

- Ensure the UN Sustainable development Goals (SDGs) have an earlier and higher profile in the Strategy. The SDGs encompass Ireland's international commitments with the other 192 UN signatory countries and will be one of the key factors in driving interventions such as the circular economy.
- Special measures are needed to facilitate the provision of knowledge development in the public & private sectors, along with consumer and domestic behaviour. This can take the form of formal education, continuing professional development, and on-line education and public awareness raising initiatives. This lends itself well to a coordinated approach through relevant EU wide supported initiatives. Ireland's activity should be in concert with all 27 member states to ensure the highest impact.
- The innovation aspect of the Circular Economy (CE) is associated to the "Circular Economy Innovation Grants Scheme". If there is a need to double CE activity from the current level of 8.4% globally, integration of CE with other public funding Schemes in innovation will be needed. Adaptation of existing funding instruments could be used for this purpose, for example, the development of a CE type 'innovation voucher' scheme (EPA/Enterprise Ireland joint initiative)
- We would advocate the selection of pilot areas and regions, e.g. local authorities & their surrounding communities for 'advanced interventions', to include public awareness, local business initiatives, local public body interventions, choosing areas like South Dublin County Council (supported by TU Dublin Tallaght, local schools, Chamber of Commerce, ...).

2. Do you agree with the overall level of ambition set out in the draft Strategy? If not, is further ambition needed or is the draft Strategy overly ambitious?

We agree the level of ambition expressed in the strategy and regard it as appropriate. To further underpin this ambition, we would propose:

- The EU has well defined action plans with different sectoral circular economy roadmaps with defined objectives (e.g. https://ec.europa.eu/food/food/food-waste/eu-actions-against-food-waste_en). Reference to these may be worth highlighting and might be worth including in the sectorial actions.
- The ambitions set out are high. It might be useful to refer to models or case studies in countries of similar order to achieve the ambition of objectives, this CE strategy should be directly linked with the relevant plans that affect the economy. For example, the “Agri-Food Strategy 2030” is intimately connected to the success of this plan. Goal 6 of this 2030 strategy includes circularity. Other sectoral plans should have similar connections well established and integrated.

3. Should Ireland measure its progress in achieving a more circular economy relative to its European Union peers? If not, what alternative benchmark should Ireland adopt and why?

- The current stated target is appropriate, i.e. “to support and implement measures that significantly reduce Ireland’s circularity gap, in both absolute terms and in comparison with other EU Member States, so that Ireland’s rate is above the EU average by 2030”.
- The Strategy highlights the importance of international cooperation. Circular economy policies and initiatives largely take place domestically, and yet they have important interlinkages with international trade (OECD). It may be useful to outline actions that further develop cooperation in CE within the EU, with the UK and on a Shared Island basis. The consideration of this trade element of CE together with the commonalities in the respective CE scenarios of the RoI, NI and UK would open further opportunities for the Irish economy.

4. Would you rate Irish public awareness of the circular economy as high, medium or low? And how important do you think raising public awareness is to further developing the circular economy?

- Irish public awareness is low but growing.
- Here the higher education sector can play a strong role in promoting CE awareness and supporting knowledge transfer to business and public organisations through activities and education/ workforce development, for example:
 - The tendering competition for the new FOCAS research institute building at Grangegorman (see case study attached) – requires the inclusion of circularity in this major public sector building.
 - TU Dublin’s role in awareness building from its increasing engagement of the student body via interventions like
 - all TU Dublin students being engaged in a SDG oriented practiced based learning activity by 2023

- participating in the UN supported Sulitest (with over 1,250 student participants in 2021 from January to May) with many covering the Circular Economy module
- facilities increasingly oriented towards avoiding the use of single use items (e.g. separate pricing for coffee and their cups).

5. What are the most effective awareness raising measures that could be taken under the Strategy?

- Learn from what has been achieved from previous campaigns, particularly from the experience of public health communication throughout the Covid-19 pandemic.
 - “Ireland is to play its part in this global imperative”
 - “And here is how we plan to do it.”
 - “As part of our island’s contribution to progressing Climate Action”
 - “From next month XXXX ...”

6. Are you satisfied with the proposed stakeholder engagement arrangements in the draft Strategy? Which additional stakeholders (if any), not already part of the Waste Action Group, do you think should be included in the Strategy’s implementation?

- Office of Government Procurement is a key stakeholder and is ideally placed to provide leadership in implementing key aspects of the strategy.
- The higher education sector should be highlighted as an agent of innovation and change. A HEI wide body to represent & liaise with all 3rd. level organisations in the Waste Action Group, e.g. The National Student Engagement Programme.
- Consideration for international stakeholder involvement/engagement should take place to open opportunities for Irish business and for the implementation of the strategy

7. What do you see as the major economic and/or social co-benefits of moving towards a more circular economy in Ireland, so that environmental improvements also provide economic and social opportunities, and vice versa?

- Green tendering will provide enterprise opportunities. However, enterprise needs to be prepared for these coming opportunities.
- Tendering can specify socially desirable outcomes providing social development opportunities. See, for example, the Grangegorman Local Employment Charter¹

¹ <https://www.tudublin.ie/connect/communities/gllf/local-employment-opportunities/>

- Technological Universities are well placed to deliver Train the Trainer programmes targeted at specific sectoral groups. In the field of digital transformation, European Digital Innovation Hubs perform a similar function.
- Providing an opportunity for 2nd, 3rd, 4th, ... chance educational opportunities for those not previously in a position to advance their education.
- A support framework, from research and innovation through to communications to highlight all sectors of society the positive environmental, economic, and social impacts of circularity.

8. What do you see as the major regulatory barriers to the further development of the circular economy in Ireland? In answering this question please feel free to address economy-wide issues or those affecting your sector in particular.

- The reasons that have led in Ireland to close to zero application of feed-in tariffs for locally produced renewable energy needs to be avoided/overcome with developing the circular economy.

9. What do you see as the major non- regulatory barriers to the further development of the circular economy in Ireland? In answering this question please feel free to address economy-wide issues or those affecting your sector in particular

- Not having suitable structures in place to effectively support the coming interventions.
- Sectoral interests that will push against/slow/inhibit CE development. Mitigation and adaptation by elements of these sectors needs to be encouraged from an early stage (e.g. Mitigation: recent Avonmore plant planning issues – the application may have included a commitment to carbon sequestration measures to offset some of the plant emissions – planting suitable trees on underutilised local land. Adaptation : Bord na Mona using bog land for wind turbines).

10. How important do you consider Green Public Procurement is in supporting the development of new circular re was goods and services?

We believe this is absolutely critical, given that over €4 of every €10 spent in Ireland is directly attributable to the public sector². The public sector has therefore a key role as a leader and driver of CE initiatives.

11. What would be the most effective action Government could take to promote/support and incentivise the further development of the circular economy?

- Compensatory interventions that encourage multi-use/recycled/ reused items (e.g. cup washing areas beside coffee dispensaries)
- Consumption tax on single use items where an alternative multi-use item is available.
- Modular construction with an eye on developing overseas markets.
- Incentivising localised demonstration activities.
- Promoting the successful.

12. Which sectors do you think can make the biggest contribution to making Ireland's economy more circular?

- Public sector, particularly procurement.
- Continuing to expand and explain legislative interventions to reduce single-use and encourage multiuse/recycling, particularly with packaging (e.g. plastic bag tax, rechargeable batteries, keep-cups, deposits on glass bottles, ...)
- With Digital Transformation and an eye on Ireland contributing internationally, put in place the support structures for the island to become a centre of knowledge & design expertise in terms of carbon management and circularity on all issues relating to the digital economy (from data centre excess heat use to 'factory to home delivery' packaging).
- Circular manufacturing, including modular building.
- Where agriculture residual & food waste are difficult to reduce further, to encourage/support/establish suitable reuse/recycling systems (e.g. anaerobic digestion).

² For 2019, Irish Government Expenditure €87.6bn, Modified Gross National Income €213.7bn.
<https://www.cso.ie/en/statistics/governmentaccounts/governmentincomeandexpenditurea/https://www.cso.ie/en/releasesandpublications/ep/p-nie/nie2019/mgni/>

EXAMPLES : CIRCULAR ECONOMY & TU DUBLIN

ACTIVITIES	PAGE
BUILDING DESIGN	2
PROSTHETICS	3
FURTHER EXAMPLES	4
EDUCATION	4

CIRCULAR ECONOMY & BUILDING DESIGN

FOCAS

ARCHITECTURAL DESIGN COMPETITION FOR A HIGHER-EDUCATION RESEARCH BUILDING & PLACE AT TECHNOLOGICAL UNIVERSITY DUBLIN, CITY CAMPUS GRANGEGORMAN



A major part of developing Dublin's newest university is the moving of its many city campus locations (formerly DIT) to Grangegorman. TU Dublin's FOCAS research institute is at the procurement of technical consultancy services (design team) stage of relocating under the guidance of the Grangegorman Development Agency (GDA). After engaging with Construction Sector Group¹, the details for the competition² were released, where the GDA stipulated in the area of Environmental Responsibility that *"the project design solutions must support reduced carbon impacts in terms of the building operation, its life cycle and also embodied carbon"* (p13). Along with the development being cognizant of the many areas that relate to sustainable development, it is targeting some specific elements; primarily centred around whole life carbon reduction and circularity (p19).



This c.4,500m² building is having targets set in terms of Whole Life Carbon assessment as defined by BS EN 15978, providing an opportunity to consider from the outset an approach to circular design. Part of the competition assessment will be the evaluation of the proposed building so as to ensure the optimum and efficient use of components in the first instance to reduce material needed, waste generated and carbon expended (p20), so *"the service life of materials as well as the building itself are to be understood, requiring the consideration of issues like disassembly to component level allowing re-use - extending the life of materials reintroducing them to into the circular economy with limited reprocessing requirements"* (p20).

¹ Liaison took place with the CSG sub-grouping on Innovation and Digital Adoption <https://www.gov.ie/en/press-release/ce4ce-minister-mcgrath-launches-competitive-challenge-based-grant-call-to-deliver-build-digital-project-for-the-construction-sector-in-2021/>

² For the main competition document, download 11FI-GDA-XX-XX-RP-XX-XX0001_CompetitionBrief.pdf from https://irl.eu-supply.com/app/rfq/publicpurchase_docs.asp?PID=178179&UID=201370&AllowPrint=1

CIRCULAR ECONOMY & RE-USE OF PLASTIC BOTTLES

3D ASSIST

3D PRINTING PROSTHETIC HANDS & ARMS FOR PEOPLE WHO NEED THEM.

Tallaght : Repak Collection Unit providing plastic for 3D Assist



Repak have provided a collection point that supplies plastic for use in the 3D Assist project³, an informal group of students and staff at TU Dublin - Tallaght Campus. Set up in January 2015 with a view to 3D printing prosthetic hands and arms for people who need them, to date the group has manufactured over 30 prosthetic arms and hands for recipients in Ireland and the UK. The project has expanded into activities such as modified joysticks for wheelchairs and heated joystick covers for wheelchairs.

³ <https://www.tudublin.ie/explore/our-campuses/tallaght/research--innovation/research-centres--groups/3d-assist-tallaght/>

FURTHER EXAMPLES

Measures : details available on request⁴

Location	Activity	
• CB St / K St	Reconditioning PCs for reuse	Reuse
• City Campus	Crisp Bags	Recycling
• CB St	Food Waste - School of Culinary Arts & Merchant's Quay	Recycling
• Linenhall	Chippings Waste - Dublin School of Architecture	Recycling
• A St / B St	Keep Cups	Min Waste Generation
• All Campuses	Instruction on Non-Use Single Use Plastics	Min Waste Generation
• All Campuses	Default Printer Settings – grey scale & double sided	Min Waste Generation
• All Campuses	(Student) Litter Survey	Min Waste Generation
• City Campuses	Waste Report 2018 CSO Submission	Benchmarking
• Volunteer Soc	Canal Clean	Civic Service

EDUCATION

2023 is the strategic target date for TU Dublin to have all programmes having sustainability as a learning outcome⁵. This process is rapidly taking place, with some programmes having issues delaying with circularity at its core from their inception.

Programme	Activity
• B. Sc. Sustainable Timber Technology ⁶	This is the 1 st . programme in TU Dublin to have evolved, in its review, to fully embrace sustainability and the SDGs. Circularity is a core theme, starting in year 1, and developed throughout the four years of this honours programme.
• Architecture ⁷	Student & staff programme review resulting in commitments for the following year in terms of sustainability orientation, including circularity.
• M.Sc. Sustainable Infrastructures ⁸	Life Cycle Assessment with the resulting development in Cradle to Cradle Design
• B.Sc. Product Design ⁹	Whereas consideration of circularity was implicitly covered, it is now increasingly an explicit issue. The orientation of modules (e.g. plastics) have evolved into considering whether plastics are best to use, and where they are – to consider the nature of the plastic to use (from its environmental impact in production) to suitability for using to recycling after use.
	Examples of other programmes evolving in a similar manner B.Sc. Design (Interior & Furniture) ¹⁰

⁴ Please contact greencampus@tudublin.ie

⁵ <https://www.tudublin.ie/media/website/explore/about-the-university/strategic-plan/images/green2030.jpg>

⁶ <https://www.tudublin.ie/study/undergraduate/courses/sustainable-timber-technology-tu838/>

⁷ <https://www.dit.ie/architecture/research/allresearcharticles/architecturaldesignforclimatechange.html>

⁸ <https://www.tudublin.ie/study/postgraduate/courses/sustainable-infrastructure/>

⁹ <https://www.tudublin.ie/study/undergraduate/courses/product-design-tu811/>

¹⁰ <https://www.tudublin.ie/study/undergraduate/courses/interior-design-tu975/>