



**IRISH
MANUFACTURING
RESEARCH**

Public Consultation Waste Action Plan for a Circular Economy

Submitted to the Department of
Communications, Climate Action &
Environment (DCCAE)

by

Sustainable Manufacturing,
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1. Overview of IMR

Irish Manufacturing Research (IMR) is an independent Research Organisation funded by the Irish Government to help position Ireland as a leader in advanced manufacturing.

Established in 2014 incorporating the previous industrial networks ICMR and i2e2, IMR's purpose is to improve the competitiveness and sustainability of Irish manufacturers by de-mystifying, de-risking and delivering innovative technologies, processes and concepts through a collaborative approach.

IMR's wide array of expertise includes – sustainability, circular economy, energy and water efficiency, data analytics, internet of things, industry 4.0, design for manufacturing and robotics - enabling us to manage and execute innovative cross-disciplinary and cross-sectoral applied research.

IMR's Sustainable Manufacturing thematic area is committed to de-mystifying, de-risking and delivering emerging technologies and concepts to accelerate Irish manufacturers and their supply-chains transition to a net zero carbon circular economy by innovating across the materials, energy and water nexus.

In January 2020, in collaboration with our strategic partners, the Department of Communications, Climate Action and Environment (DCCAE), the Environmental Protection Agency (EPA), [EIT Climate-KIC](#) and our 25 Founding Industry Members, IMR soft launched **CIRCULÉIRE – the National Platform for Circular Manufacturing** (see www.circuleire.ie).

- CIRCULÉIRE's mission is to lay the foundation for Ireland's transition towards a net zero carbon circular economy starting with manufacturing supply chains as a role model.
- CIRCULÉIRE is the first major Irish (public-private) systems innovation initiative for circularity and addresses the circularity knowledge, capacity building and implementation gaps or “circular innovation gap” in Ireland.
- CIRCULÉIRE is engaging actors from across the Irish circular-bio economy innovation ecosystem (government; MNCs; SMEs, solution providers, academia, NGOs, social enterprise and third sector actors).

2. Advocacy for the Circular Economy

IMR welcomes the Government of Ireland's commitments to;

- transforming its' approach to waste prevention and management to align it with circular economy principles as outlined in the [Climate Action Plan \(2019\)](#).
- transitioning to a low carbon economy and seeking to leverage Ireland's natural resources, enterprise strengths and innovative capacity to be a global leader in the circular and bioeconomy - [Pillar 5, Future Jobs Ireland \(2019\)](#).

IMR welcomes the Irish Government's Department of Communications, Climate Action and Environment (DCCA) leadership in the circular economy transition demonstrated through the development of a new Irish Waste Action Plan for the Circular Economy.

IMR believes that a new Waste Action Plan for Circular Economy can shape the pace of Ireland's transition to a low carbon circular economy and build on the targets of the Climate Action Plan (2019) over this critical decade (2020-2030). We note the Waste Action Plan's relationship to the development of a "Circular Economy Policy and Action Plan for Ireland" in 2020-21 to replace the current set of policy, plans and programmes (Action (#135) outlined in the Climate Action Plan (2019)). We recognise that an Irish policy will further enable a critical mass of constructive action across the wider EU member states in the areas of managing Climate and Waste challenges.

A robust Waste Action Plan in the context of revolutionising the industrial sector through a Circular Economy model should advance sustainable commercial and industrial operations throughout Ireland. In realigning the present industrial business model paradigm by focusing on waste prevention and circularity, the State has an ability to reduce resource leakages in the value chains across key economic sectors. By redefining **Waste as Resource** and enabling the industrial sector to profit and generate new revenue streams from new systems of symbiotic cooperation amongst companies these economic sectors can contribute significantly to the decarbonisation of the Irish economy. This public consultation is a significant step in seeking feedback from economic sectors to understand how Ireland Inc.'s resources can be kept in use at their highest value for as long as possible, before being recycled at the end of multiple service lives.

In this submittal IMR provide two types of recommendations to inform the development of Ireland's Waste Action Plan for Circular Economy; overarching recommendations (outlined in Section 3) and recommendations specifically addressing key consultation sections listed in the Public Consultation document dated 30th December 2019 (outlined in Section 4).

3. IMR's Overarching Recommendations

3.1 Integrated approach to circular economy across Government policy

- Integrated sustainability/circularity strategies are crucial to the envisioned growth in population and strategic planned economic development for Ireland ([Project Ireland 2040](#)).
- Strong central policy support is required to embed the circular economy into national policy priorities that are supporting Project Ireland 2040 (national planning and capital expenditure plans). For example, a growth in the construction sector for housing will need a Waste Action Plan that further emphasises Construction Waste and Food Waste linkages.
- An integrated approach to circularity in key National Strategic Plans is required to give clear signals to manufacturing/industry that their self-driven initiatives¹ are in sync with the Government of Ireland's strategy. In particular, coherence and alignment between; Project 2040, Climate Action Plan (2019), SDG National Implementation Plan (2018-2020 plus updated versions) and proposed Waste Action Plan is pivotal.
- IMR welcomes the following Climate Actions under the Climate Action Plan (2019) which directly support the proposed Waste Action Plan:
 - **Climate Action No. 138** supporting the development of eco-design and circular economy opportunities for Irish enterprises to reduce waste over the full lifecycle of products.
 - **Climate Action No. 142** supporting the regulation and incentivisation for producers of waste, particularly packaging, to ensure the prevention of waste and the use of recycled materials in packaging products.
 - **Climate Action No. 148** mandating the inclusion of green criteria in all procurement using public funds, introducing requirements on a phased basis and providing support to procurers as required.

3.2 Integration and alignment with EU Directives

- The Waste Action Plan for Ireland should ensure that unintended negative consequences or conflicting initiatives do not arise with existing EU legislation such as but not limited to:
 - Waste Framework Directive
 - Landfill Directive
 - Producer Responsibility Directive
 - End of Life Vehicle Directive, including batteries, accumulators, and electronic equipment.

¹ [IBEC 2019](#) survey, conducted in association with the EPA, indicated that a variety of circular initiatives are already in place in companies throughout Ireland. Examples included: formal green teams (mainly in larger organisations); increasing usage of local supply chains; design for dismantling and re-use; reduced use of critical (scarce) raw materials; innovative service delivery and avoiding or reducing single-use packaging materials.

3.3 Learning from Circular Economy Pioneers in Europe

Ireland could adopt or adapt similar models from circular economy pioneers like The Netherlands and France, amongst others, to stimulate the transformative change required in the areas of circular economy and waste action.

The Netherlands

- In the Netherlands, since 2011, the Government has addressed the non-financial barriers to scaling sustainable / circular innovation through a national “Green Deal” approach to promote and embed circular economy / sustainability systematically across government and the economy.
- The Green Deal is a joint initiative by the Dutch Ministries of Economic Affairs and Climate Policy (EZK), Infrastructure and the Watermanagement (I&W) and the Interior and Kingdom Relations (BZK). (see [greendeals.nl](https://www.greendeals.nl) and “[Green Deal](#)”).
- This is a mechanism for companies, other stakeholder organizations, local and regional government and interest groups to work with Central Government on green growth and social issues.

France

- France’s demonstrable leadership with regards to the circular economy is illustrated by a significant new law passed through the French parliament and adopted by the Senate on 27 September 2019 ‘The Anti-Waste and Circular Economy Bill’ (Projet de loi relatif à la lutte contre le gaspillage et à l’économie circulaire) (see *Appendices for link to bill text in French and IMR’s translation of the related French National Institute for Circular Economy analysis*).
- Key features of the bill include:
 - Radically expanded obligations for producers in relation to waste management.
 - Introduction of a ‘product lifetime score’ to be displayed on some products.
 - Harmonised waste collection rules.
- The Bill proposes to deal specifically with end-use waste management by:
 - Extending the existing prohibition on discarding unsold food to all unsold products that are non-perishable (e.g. clothes and other consumer goods); this will apply to both physical and online sales.
 - Introducing new obligations on e-commerce platforms to prevent and manage waste produced by their business activities (e.g. packaging waste from online sales).
 - Redesigning several important aspects (financial and structural) of the waste management obligations on businesses related to take back and recycling (EPR).
 - Requiring 100% recycled plastic by 1 January 2025, and total eradication of single-use plastics by 2040.

4. IMR's Specific Recommendations

	IMR recommendations	Applicable Consultation Sections
4.1	<ul style="list-style-type: none"> • Inclusion of circular economy principles across all national economic and environmental strategies and policies to ensure clarity for industries navigating the transition from linear to circular business models. 	7. Circular Economy
4.2	<ul style="list-style-type: none"> • Integrated approach to circular bioeconomy by the Government of Ireland. Given that the circular economy and bioeconomy are inter-related and key to the low carbon transition there is a need for cross-governmental commitment and coordination between key departments for example; but not limited to; DCCAE, DBEI, DAFM, Department of Finance and Department of Education & Skills; to accelerate the transition. • To overcome silos and enable a holistic approach to circular bioeconomy in Ireland, there is a need to develop mechanisms for sharing knowledge between all Government departments and agencies to avoid unnecessary duplication of effort and reinventing the wheel. • In addition, the Department of Education & Skills in particular, will play a key role in the transition to a circular economy due to the need for capacity building, new skills, training and apprenticeship programmes which will be required (e.g. upskilling related to remanufacturing, disassembly and repair amongst other activities). 	7. Circular Economy 22. Bioeconomy
4.3	<ul style="list-style-type: none"> • Inter-relationships between achieving the Sustainable Development Goals (SDGs) and ambitions of the circular economy and the bioeconomy require robust sustainability indicators e.g. biodiversity and local water quality needs to be highlighted in the new Waste Action Plan to ensure that these vital ecosystems services are not unintentionally jeopardised in the pursuit of material recirculation or carbon emission reductions. 	7. Circular Economy 22. Bioeconomy
4.4	<ul style="list-style-type: none"> • The Irish Waste Action Plan should play a key role in preventing imports of products that are designed to have a very short life cycle or planned obsolescence. Many global supply-chains of consumer products used in Ireland are manufactured in other continents (e.g. Asia, Africa). We recommend the inclusion of circular economy criteria (e.g. eco-design) on imported products. 	7. Circular Economy

	IMR recommendations	Applicable Consultation Sections
4.5	<ul style="list-style-type: none"> • Introduction of gradual, predictable increases in a carbon tax– giving greater investment certainty for transitioning business operations to a Circular Economy. • Introduction of carbon credits for the prevention of greenhouse gas emissions - to the same extent as is currently issued to reduce greenhouse gas emissions. 	7. Circular Economy
4.6	<ul style="list-style-type: none"> • Increased availability of funding to scale circular systems innovation – IBEC / EPA 2019 survey highlighted that 39% of respondents said funding availability in next 3 to 5 years will be a major challenge to implementing a circular economy. 	7. Circular Economy
4.7	<ul style="list-style-type: none"> • Development of sustainable finance instruments to promote uptake of circularity e.g; • VAT modularity to incentivise a greater uptake of reused-repaired-refurbished-remanufactured-recycled products and improve business case for circularity. • Reduction or removal of VAT for companies on products they donate to charities. • Longer physical depreciation periods and depreciation beyond zero. 	7. Circular Economy
4.8	<ul style="list-style-type: none"> • Development of a circularity product / process register 	7. Circular Economy
4.9	<ul style="list-style-type: none"> • Technologies associated with the Fourth Industrial Revolution (Industry 4.0) have a pivotal role to play in accelerating the transition to a circular economy e.g. deployment of the Internet of Things (IoT), Blockchain, 3-D printing, Artificial Intelligence (AI) amongst other digitisation strategies. • Increased funding and investment in research utilising these digitisation strategies to foster the creation of enabling tools e.g. material passports, circularity indexes, circularity decision-making tools for design / procurement etc. thus accelerating the deployment of circular business models. • Increased funding and investment in research identifying the levers that embed circular economy strategies at industrial scale. 	7. Circular Economy 18. Research & Innovation
4.10	<ul style="list-style-type: none"> • Facilitating green / circular procurement networks to embed circularity and sustainability transition thinking in procurement (negotiations and supplier management processes). Driving sustainability issues into procurement networks enables networks of companies to leverage collective spending on waste reduction and circularity by linking shared costs among a critical number of participants at early phases of initiatives. 	7. Circular Economy 20. Green Public Procurement (GPP)

	IMR's recommendations:	Applicable Consultation Sections
4.11	<ul style="list-style-type: none"> • Standardise plastics to improve recycling rates. • Prohibit non-recyclable packaging and its' importation. • Develop incentives to encourage and enable the mainstreaming of refillable packaging models in the retail sector e.g. Refillable Grocery Stores with Zero Single-Use Packaging or Loopstore.com 	5. Plastic and Packaging Waste
4.12	<ul style="list-style-type: none"> • Creation of new Extended Producer Responsibility (EPR) Schemes for additional product / material categories e.g. wood and furniture, construction materials, mineral and synthetic oils, fishing gear/ nets, toys. Akin to the French "Anti-Waste and Circular Economy Bill" see Appendices. 	15. Extended Producer Responsibility (EPR)
4.13	<ul style="list-style-type: none"> • Investment is required in enabling infrastructure to ensure the recovery of waste and recirculation of materials on the island of Ireland – e.g. recycling centres for core material wastes (glass, plastics and textiles). 	10. Textiles – Waste and Recycling 11. Waste Management Infrastructure
4.14	<ul style="list-style-type: none"> • Development of resources/toolkits which enable businesses to assess their own material or object status to determine whether it meets the criteria of a by-product or has end-of waste status for e.g. "Is it waste tool" web-based tool piloted by the Netherlands and the UK. 	12. By-Products 13. End of Waste Status
4.15	<ul style="list-style-type: none"> • To drive a circular economy access to data is vital. There is a need for facilitated sharing of regional and local waste / resource flow studies between stakeholders to enable the quantification and qualification of both man-made materials; bio-materials; water and energy across the island of Ireland. While various mapping exercises have been conducted they are either publicly available but unknown or known but not shared – building on existing work in this area would fast track the transition and identification of circular opportunities. 	17. Waste Data & Waste Flows

5. Appendices

5.1 Link to French Assembly – “The Anti-Waste and Circular Economy Bill”
[Projet de loi relatif à la lutte contre le gaspillage et à l'économie circulaire](#)

5.2 Analysis of the French “Anti-Waste & Circular Economy Bill” by the French National Institute for Circular Economy translated by IMR.

Source: “[Institut National de l’Economie Circulaire – Analyse et Décryptage](#)”

I. Informing the consumer

- Manufacturers of products display a reparability index linked to a sustainability index (robustness or potential to fail).
 - Information on availability of spare parts made available to retailers and consumers by manufacturers.
 - Producers print the recyclability/reusability of products on packaging.
 - Retailers selling products containing potential carcinogenic products (pesticides, endocrine disruptors etc) required to warn consumers.

II. Enabling repair

- Spare parts issued from circular economy value chains for repair by all manufacturers of electronic or medical equipment (this law already exists for car manufacturers).
- Manufacturers to supply those spare parts within a 15-day period, as opposed to 2 months today. Product reparability considered as an essential requirement for all products. Any process or system (including software) that aim to make repair or refurbishing impossible is not permitted.
- Minimum product warranty for 12 months for second-hand products. Products repaired within that 12 months window will be covered for an extra 6 months.

III. Measures against waste

- A national anti-food waste label.
- Destroying any non-food item is not permitted. Producers reuse, repair, refurbish or recycle their products following the circular hierarchy.

IV. End of single use plastics by 2040

- Aim to use 100% recyclable plastics by 2025. A national strategy written before 2022 with sectorial objectives.

V. Towards more bulk products retailing

- Any product of mass consumption available to buy without packaging and in any chosen quantity by the consumers.

VI. Green public procurement

- All public bodies reduce as much as possible single use plastics consumption and waste generation and prioritise procuring second-hand goods coming from supply chains (procuring reused products, refurbished products, recycled products in that order).
- All public bodies procure re-treaded tyres and refurbished buildings. Operational tools issued to all public bodies on how they can engage in circular procurement.

VII. Extended Producer Responsibility (EPR)

- EPRs on new products created for environmentally troublesome items e.g. construction materials, toys, sport and leisure goods, mineral and synthetic oils, gardening tools, tobacco products, single use sanitary products, chewing gums, fishing gear containing plastics.

VIII. Incorporating recycled material in products

- Some products required to a minimal amount of recycled material, except for materials issued from renewable sources (provided that the renewable material production is carbon neutral).
- Certificates ensure the percentage of recycled material in products.

IX. Deposit Return Schemes (DRS)

- Collection rate 77% by 2025 and 90% by 2029 for plastic bottles.
- Quantity of plastic bottles sold decrease by 50% by 2030.

X. Construction industry.

- Reinforce traceability, collection and recovery of value for construction waste - leading to reduced littering and dumping.
- Scope of a resource diagnostics tool to include refurbishment works e.g. product information (product passport) relative to materials.
- Quotes for construction, demolition, refurbishment, gardening includes cost for collection and recycling of waste streams.
- An EPR on waste collection.
- Implement end of waste (EoW) status for former waste materials to improve the reuse and recycling.

XI. Tax incentives

- Companies donating items to charities do not pay VAT on those products.
- Remove VAT exemption for destroyed unsold products.
- Reimburse the VAT to Local Authorities when prioritising pay-per-use schemes (or product as a service schemes) over the purchase of new products.
- Instore reduced VAT for environmentally friendly products and services (repaired and refurbished products, products incorporating recycled materials or issued from renewable sources).

XII. New measures to develop an integrated accountability of products

- Integrated accountability for environmental externalities of company's products such as biodiversity loss, resource exhaustion, pollution or carbon emissions.

XIII. Improving education for Circular Economy (CE)

- Education for CE taught systemically throughout education and viewed from a holistic approach:
 - Primary school syllabus and curriculum
 - Secondary school syllabus and curriculum
 - Tertiary schools (Universities/ Institutes) curriculum e.g. architecture & engineering include syllabus on eco design, use, and return for both durable and renewable materials.

XIV. Digitalisation

- Use of digitalisation as a driver to accelerate the implementation of CE e.g., proposed reuse of public assets in social and sharing economy context via online platforms run by the State (for example - modular construction that is no longer in use).
- Online retailers subject to an Extended Producer Responsibility (EPR) scheme obligating them to reduce their packaging waste.
- Internet providers indicate (make visible) to customers how much CO2 they consume as part of their broadband access (CO2 from infrastructure, data centres etc).
- Removing planned obsolescence - electronic goods manufacturers indicate optimal lifespan of products (i.e. not requiring update of software/ slowing down the use of the device etc).

XV. Energy

- Public procurement prioritises energy efficient products.
- By 2025, products that cannot be recycled are recovered (70% minimum) in energy recovery plants.
- Public bodies required to use and develop software which ensures the most energy efficient use of devices. Life cycle analysis and energy consumption is made transparent over the life of the device.

XVI. More power for Local Authorities (LAs)

- LAs have power and resources to deal with illegal dumping sites.
- LAs and regions are incentivised to foster CE actions for industrial symbiosis among local area enterprises and networks.

XVII. Other measures

- All off-site catering services required to provide reusable containers (including fast food).
- Prohibit plastic toys accompanying promotional food.
- Prohibit certain packaging for fresh fruits and vegetable.

6. IMR's Internal Submission Approval

Approved By	Position	Company	Date
David McCormack	Director of Sustainable Manufacturing	IMR	21/02/2020