

CIRCULÉIRE Thematic Working Group 2021 Topics

Thematic Working Group (TWG) Process

The Thematic Working Group aims to create opportunities to raise industry members' awareness and understanding of strategically important circular economy topics and concepts, feed into recommendations with panel members - and shape a future pipeline of practical demonstrator projects that can be funded by CIRCULÉIRE's ring-fenced Innovation Fund.

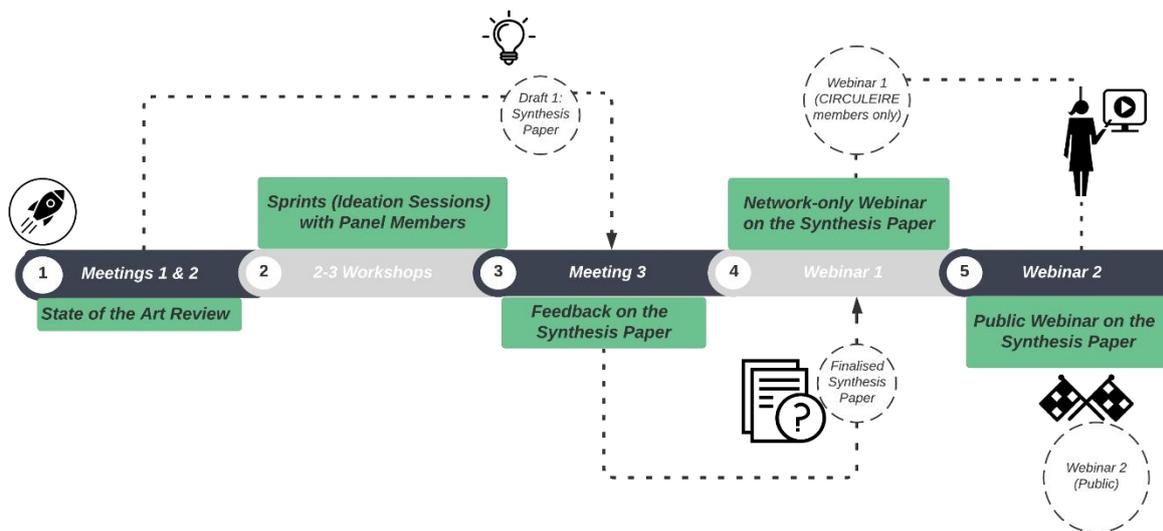


Fig. 1. Overview of the TWG Process

Over the 12- 16 weeks the Thematic Working Group is run, partners will:

- Receive an Invitation to join the Working Groups;
- Be guided by the Expert Facilitators through a 'State of the Art Review' (of relevant policy and international best practice);
- Participate in an Ideation Sprint with Panel Members to identify potential recommendations & co-develop Innovation Project Ideas;
- Feed into a Synthesis Report based on the TWG topic;
- Participate in Network Meetings and Webinars;

2021 TWG Kick-Off Dates

1. TWG 1 – Circular Packaging & Reusables

Kicked off 27th April 2021, running until circa w/c 6th September 2021

2. TWG 2 - Circular Plastics

Commencing circa 10:00am – 12:00pm, 20th May 2021 until circa w/c 27th September 2021*

3. TWG 3 - Circular Design & Redesign

Commencing circa w/c 28st June 2021 until circa w/c 18th October 2021*

*Includes pause of events / workshops for August

Thematic Areas for 2021 Working Groups

#1

Circular Packaging and Re-Usables

Packaging is a key priority of the EU Circular Economy Action Plan and the Irish [Waste Action Plan for a Circular Economy](#), which identifies packaging is one of the waste streams where the Extended Producer Responsibility model is to be used. In 2018, packaging waste generated in the EU was estimated at 174 kg per inhabitant (varying from 67.8 kg per inhabitant in Croatia and 227.5 kg per inhabitant in Germany) ([Eurostat, 2020](#)). From 2008 to 2018, paper and cardboard was the main packaging waste material in the EU (31.8 million tonnes in 2018) followed by plastic and glass (14.8 million tonnes for plastic and 14.5 million tonnes for glass waste materials in 2018) ([ibid.](#))

As of February 2021, the European Commission is undertaking a review of the essential requirements of the [Packaging and Packaging Waste Directive \(1994/62/EC; PPWD\)](#) with a view to reducing (over)packaging and packaging waste, and driving design for reuse and recyclability of packaging - particularly where alternative reusable products or systems are possible or consumer goods can be handled safely without packaging. By the end of 2024, it is expected that all EU countries will have producer responsibility schemes established for all packaging. This Thematic Working Group will seek to prepare industry for these changes, exploring opportunities for innovation where industry can reduce or replace their primary, secondary and tertiary packaging waste with more re-usable, re-fillable or recyclable packaging systems.

Thematic Working Group Objectives

State of the Art review of key policies and legislative frameworks at national and European levels, highlighting their implications to industry partners. Moreover, this Thematic Working Group should look to map and review international best practices regarding circular packaging solutions (e.g. B2C and B2C re-usable packaging models which utilise digital technologies and track and trace to enable re-usable / refillable packaging models, inter-supply chain transportation, etc.). It should assess opportunities for innovation such as the development of substitutes for currently non-recycled and non-recyclable packaging (for example sectors with stringent health and safety requirements traditionally single-use packaging like food and pharmaceutical sectors) and highlight key considerations, such as economic viability and infrastructure required to implement re-fillable, re-usable and/or recyclable packaging systems in a B2B vs.B2C context .

Systems Innovation Project Ideas

- Pilot of packaging substitutes for multi-layered forms of packaging (e.g. crisps packs, blisters packs) through packaging simplification or alternatives that improve recyclability.
- Pilot testing of biodegradable and compostable packaging solutions e.g. bio-polymer formulations with a high content of renewable sources.

#2

Circular Plastics

The production and consumption of plastics today offer a series of benefits (in particular low production costs, durability and versatility) but it also pose several challenges (including loss of material value as a result of single use and low recycling rates, and

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negative effects on nature, marine life, climate and human health) ([EP, 2017](#)). Of the 30 million tons of end-of-life plastics collected in Europe each year, today just 5 million tons make it back into marketable products ([POLITICO, 2020](#)). The rest is either incinerated, landfilled or exported for recycling.

To meet the ambitious [European Green Deal objectives](#), much more plastic waste needs to be recycled and more sustainable, non-toxic alternatives found. The chemical industry has an important role to play in achieving the transition to circular plastics - by contributing to all forms of plastics recycling: mechanical, chemical and organic. Meanwhile, innovations in green chemistry are now making it increasingly possible for industry to substitute plastics derived from fossil resources with non-toxic, bio-based alternatives from renewable resources which can reduce emissions of greenhouse gases, produce plastics that are easier to recycle to the virgin polymer and, at the end of their useful life, biodegrade in the environment ([Green Chemistry, 2020](#)).

Thematic Working Group Objectives

State of the Art review of key policies and legislative frameworks at national and European levels (including the Irish [Waste Action Plan for a Circular Economy](#) and [the EU European Strategy for Plastics in a Circular Economy](#)), highlighting their implications for industry. Moreover, this Thematic Working Group should look to map and review international best practices regarding circular plastics. Finally, with input from industry and panel members, it should assess opportunities and practical requirements for innovation projects related to this topic.

Example(s) of Systems Innovation Project Ideas could include:

- Implementation of a chemical recycling demonstration plant for plastics to valorise waste produced in Ireland into alternative sectors (e.g. automotive; textiles, construction).
- Implementation of pilot to enhance sorting and increase the overall recyclability of plastic waste (excluding PET bottles which are recovered and recycled).
- Implementation of a pilot aimed at transforming organic waste residues into biodegradable bioplastics that could be used for packaging and/or other applications.

#3

Circular Design & Redesign

Circular Design is a stated priority under key national and European policies such as new Waste Action Plan for a Circular Economy ([WAPCE](#)) and EU Circular Economy Action Plan ([EU CEAP 2.0](#)). Circular Design refers to "improvements in materials selection and product design standardisation / modularisation of components, purer materials flows, and design for easier disassembly), [and lies] at the heart of a circular economy" ([EMF, 2012:9](#)) Key to developing sustainable products, services and value chains, Circular Design involves looking at design issues such as design for repair and recycling; including availability of spare parts, and removing barriers to reuse and repair, so that current products and services can be redesigned with circularity at their core.

Moreover, Circular Design plays an important role in enabling producers to design out waste and pollution - and features prominently in the Extended Producer Responsibility

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(EPR) measures contained in the Government's new WAPCE, which recognises the importance of eco- and smart design and:

- Provides an incentive to producers to design products that contribute to waste prevention and facilitate recycling by taking into account their durability, reparability, reusability, recyclability and the presence of hazardous substances.
- Acknowledges EPR schemes need to develop strategic plans for their respective waste streams which will foster greater engagement along the supply chain with a particular focus on the design and manufacturing sectors.

Thematic Working Group Objectives

State of the Art Review of Irish and European policy/strategies and corresponding legislative framework (including, but are not limited to: [EcoDesign](#) legislation, frameworks and [Circular Design Guides](#) and new Irish [Waste Action Plan for a Circular Economy](#)). This Thematic Working group could explore how circular design principles can help industry maintain their competitive advantage and while becoming better aligned with current Government priorities and needs, such as a focus for shortening industrial value chains (in the face of supply and demand-side disruption with Brexit, COVID, etc.) and securing investment/jobs in Ireland.

Example(s) of Systems Innovation Project Ideas could include:

- Product and/or service redesign while pilot testing the circular manufacturing design matrix in multiple sectors.
- Pilot testing of circular service redesign e.g. closed-loop production systems in different industries such as 'pay-per-use' or 'product as service' models.