



Innovating to Reduce, Reuse and Recycle

9th Packaging and Innovation Forum
Berlin



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The Smart Sustainable Plastic Packaging Challenge 2019 - 2025

To deploy £60m of public funding alongside £149m of private money using a combination of:

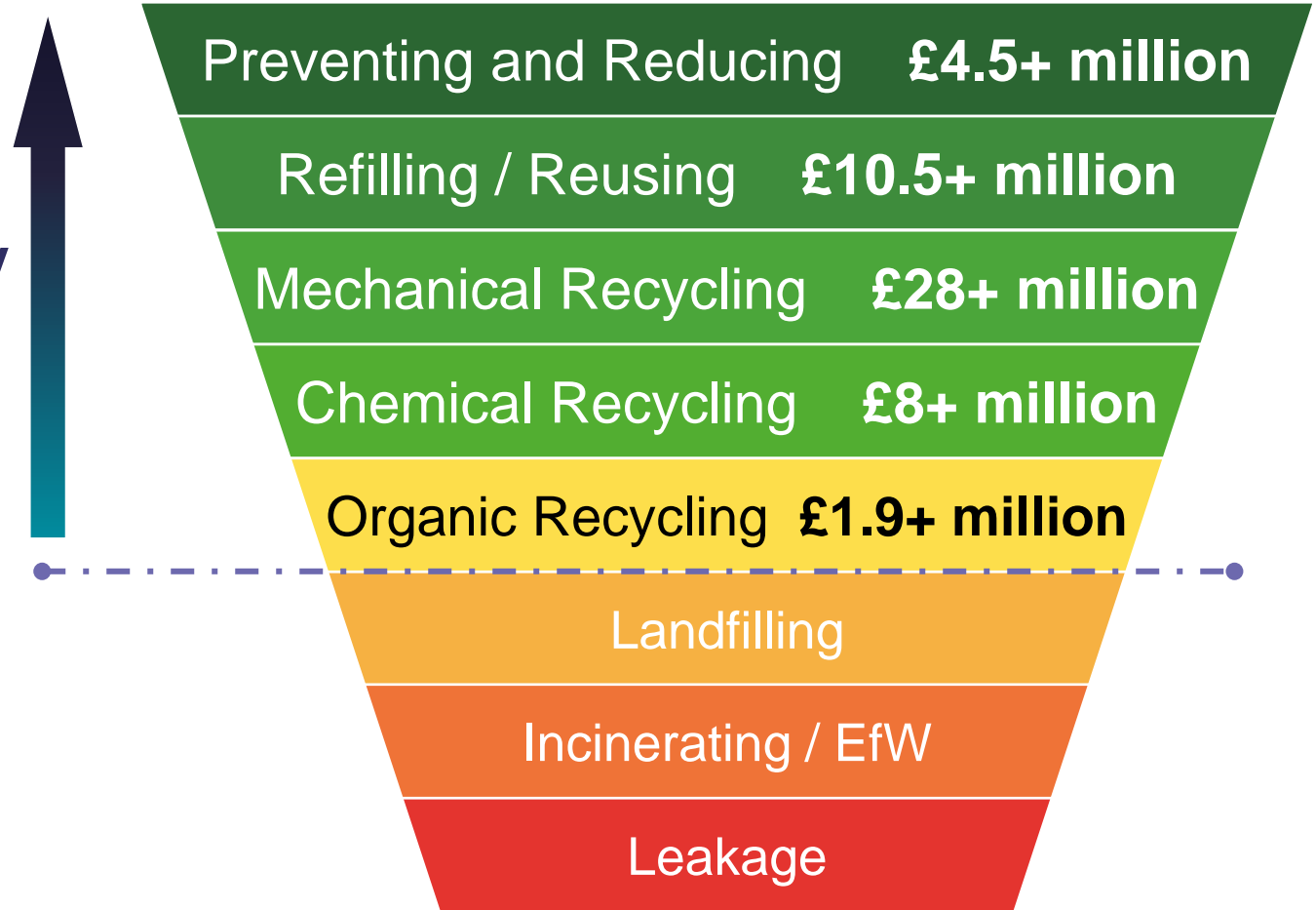
- **Early stage enabling research (~£8m)**
- **Collaborative R&D (~£12m)**
- **Large scale demonstrator projects (~£38m)**

Supporting **bold, ambitious innovation** to bring about wholesale change in the UK's ability to:

- **Reduce**
- **Reuse**
- **Recycle**

SSPP Portfolio

- 8 Funding Competitions
- 57 funded projects to date
- Collaborative/multi-disciplinary
 - Recycling industry
 - Packaging industry
 - Brand and retailers
 - Academia
 - Not for profit
- Balanced approach





Prevention

Novel materials to prevent plastic waste



Notpla – a seaweed-derived coating as an alternative to the plastic laminates used on cardboard packaging



Xampla – a new plant-based, edible packaging film that could help to reduce the 855 billion single-use plastic sachets that become waste every year



Reuse and Refill

System change for refill / prefill

- Frictionless and compelling proposition for customers and the retail supply chain
 - Infrastructure
 - Finance
 - Benefits (especially carbon accounting)
- AND we need to change (deeply ingrained) habits

Hence we want target high frequency, high volume purchases e.g. fresh milk

**56.5 billion units
of single-use
plastic packaging
sold annually in
the UK**



What do customers want? The 'Amazon Test'

➤ **Convenience**

➤ **Value**

➤ **Esteem***

Must address at least one of these to be successful

Each part of the supply chain is effectively a customer - with a veto!

* Rough translation

Expensive deposits?



Downloading apps and signing up with bank details?



Fiddly in-store dispensers?



Washing containers at home?



Remembering to bring containers shopping?



System change is really hard

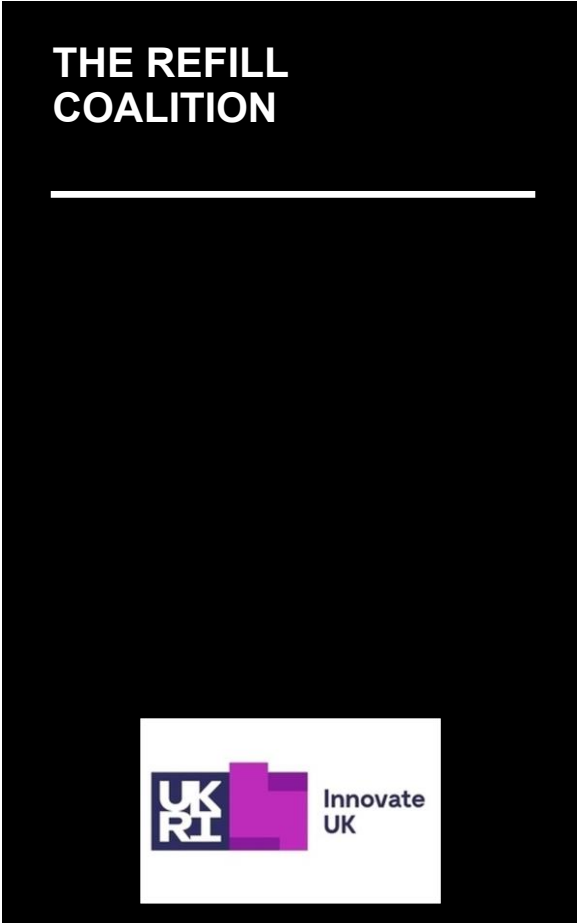


Setbacks will happen. The big question is:
HOW WILL YOU RESPOND TO THEM?



No more wasted resources on isolated trials

Large-scale demonstrator: Unpackaged



Making logistics work for refill

STANDARDISED, OPTIMISED FOR LOGISTICS

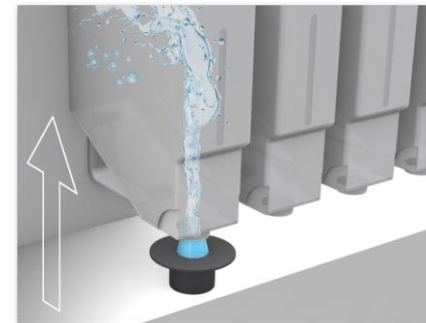
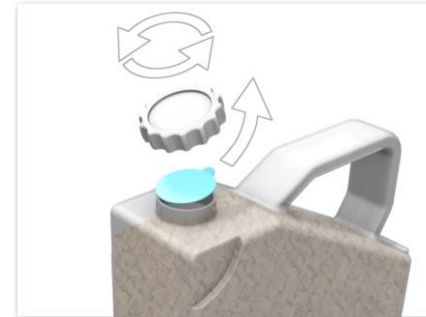
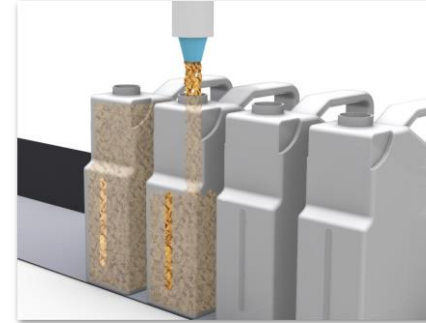


In-store vessel
14.4 L



Online vessel
3.25 L

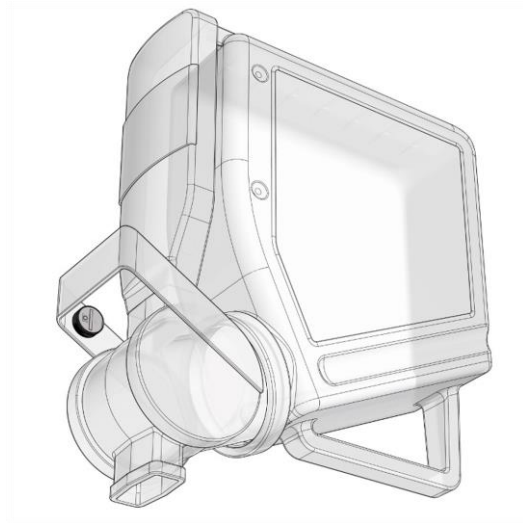
- Design and material choice ensure that vessels will **withstand the supply chain** (lifetime = 60+ cycles)
- Flat base on vessel and wide aperture opening to enable **easy filling and washing**



- **Standardised vessels** can be filled by manufacturers and suppliers in the same way
- **Tamper-proof seal** and standardised caps (readily available) for all vessels to ensure shelf life, freshness, safety and hygiene
- All vessels (in-store and online) can be cleaned at **universal service centre**

Practical, logistics friendly in-store solution

ATTRACTIVE IN-STORE FIXTURE



Prefill large-scale demonstrator: Reposit

A commercially, operationally, and environmentally scalable, data driven platform for the benefit of the stakeholders.

- **Brands** switch from single-use to standardised, smart, packaging-as-a-service
- **Retailers** sell products and facilitate return points
- **Consumers** use packaging-as-a-service, return it, reduce plastic & save money.



More support for liquid food into reuse/refill available

Grants from £0.5m to £1.5m for ambitious large-scale demonstration projects for liquid food and beverages in refillable packaging

- Competition open: **18 September 2023**
- Competition close: **25 October 2023 at 11:00 am**
- Anticipated projects start: **On or before 01 April 2024**
- Project duration: **6 – 12 months**
- Lead applicant: **UK registered businesses only**
- Funding available: **£1.5 million for Experimental Development projects**



Disclaimer: Please refer to the Competition Brief on the UKRI Innovation Funding Service (IFS) for the detail and exact wording on competition scope, eligibility, funding and questions.



Mechanical Recycling

Mechanical recycling – large scale demonstrators



Impact Recycling
– Water based
sortation of films



Fiberight – Recycling
plastics from MRF
reject streams



Berry Global – World
first mechanical
recycling plant for food-
grade polypropylene

More on films and flexibles...



- Flexcollect – The UK's largest pilot of kerbside plastic film collection
- Ceflex – SSPP is one of the larger contributor's to this multinational supply chain initiative



Chemical recycling

Chemical recycling: large scale demonstrator



20kt/a large-scale demonstrator, Wilton UK



What about preventing leakage?

“What gets measured gets done”

- Looking at potential for remote sensing and AI data processing to look for plastics aggregations and flows
- Potential to test effectiveness of policy interventions
- Assist with international agreements





THANK YOU

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www.ukri.org/smart-sustainable-plastic-packaging-challenge/

www.ukcpn.co.uk/SSPP