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Welcome

Overview

- Introduction to UKRI and Smart Sustainable Plastic Packaging Challenge and the UK Plastics Pact
- Two Faces of Plastic Packaging
- Drivers for Change
- Reduce, Reuse and Recycling
- Examples of SSPP Funded projects
- Funding Opportunities
- Tips on Refill projects
- Summary
- Q&A

UK Research & Innovation

We work with the government to invest over £7 billion a year in research and innovation by partnering with academia and industry to make the impossible, possible. Through the UK's nine leading academic and industrial funding councils, we create **knowledge with impact**.



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Technology
Facilities Council



Arts and
Humanities
Research Council



Engineering and
Physical Sciences
Research Council



Biotechnology and
Biological Sciences
Research Council



Economic
and Social
Research Council



Research
England



Natural
Environment
Research Council



Innovate
UK



Medical
Research
Council

The SSPP Plan 2019 - 2025

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

- Early stage enabling research (c£8m now closed)
- Collaborative R&D (c£12m open early 2021)
- Large scale demonstrator projects (c£38m in total D1 closed, D2 to open early 2021, feasibility studies now closed)

To bring about wholesale change in the UK's ability to:

- Reduce
- Reuse
- Recycle

its plastics packaging and so dramatically the amount of plastics entering the environment.

“Recovery” is NOT part of the SSPP plan.

The SSPP Team



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Manager



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Impact and
Performance
Manager

Smart Sustainable Plastics Packaging

Aim:

To establish the UK as a leading innovator in smart and sustainable plastic packaging for consumer products, delivering cleaner growth across the supply chain, with a dramatic reduction in plastic waste entering the environment by 2025

Objectives:

- To deliver R&I in support of the UK Plastics Pact targets
- To unlock significant overall increase in R&I spend (Govt and Industry)
- To increase UK Plastics packaging supply chain collaboration



UK Plastics Pact Targets

- **100%** of plastic packaging to be reusable, recyclable or compostable
- **70%** of plastic packaging effectively recycled or composted
- **30%** average recycled content across all plastic packaging
- Take actions to **eliminate** problematic or unnecessary single-use packaging items through redesign, innovation or alternative (reuse) delivery models.



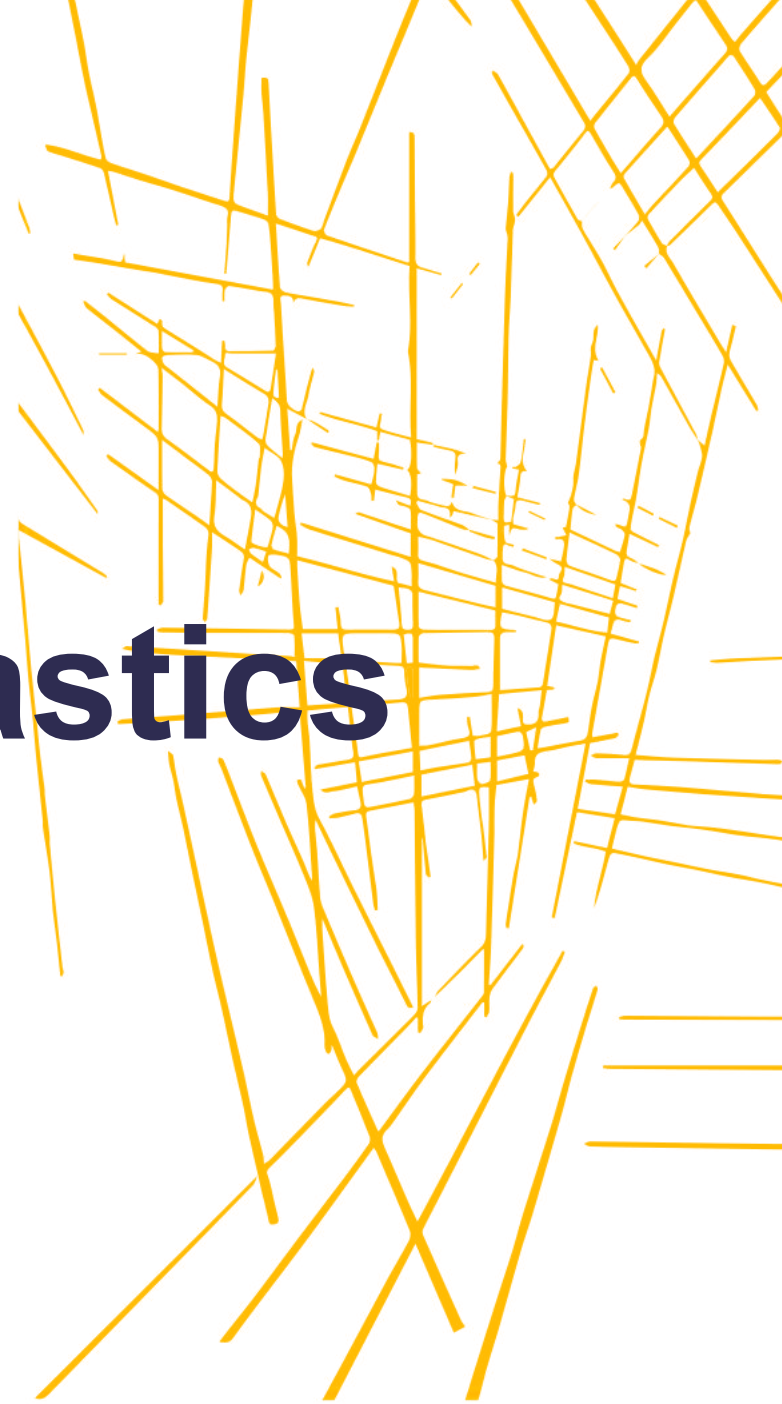


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The Two Faces of Plastics Packaging



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SSPP Recognises the Virtues of Plastics Packaging

- Light weight
- Highly efficient
- Versatile
- Cost effective
- Protects and preserves
- Effective in reducing supply chain losses



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**These same factors
make managing
plastics packaging
waste more difficult**



Light weight – little weight collected (weight based targets)



Highly efficient – high volume low weight – expensive collection



Versatile – lots if different polymer types/combinations/formats to deal with



Cost effective – low value of recovered plastics



Protect and preserve – high levels of direct food contact use



Effective in reducing supply chain losses – waste arises throughout the supply chain not just at end consumer



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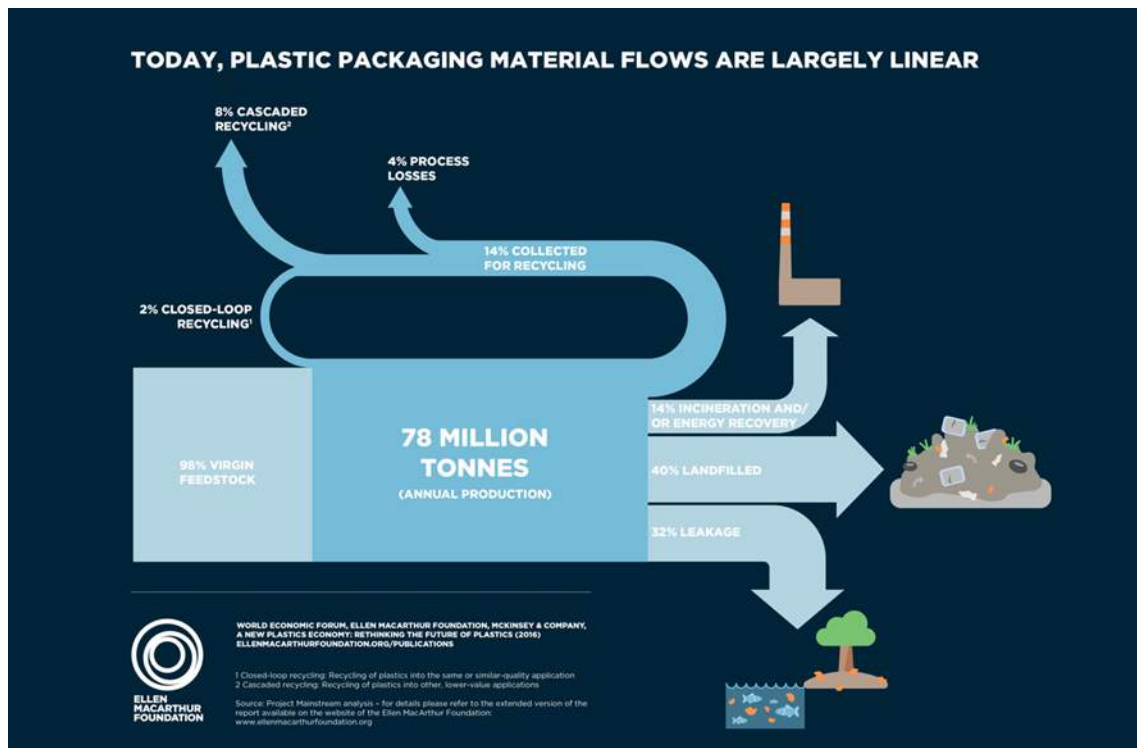


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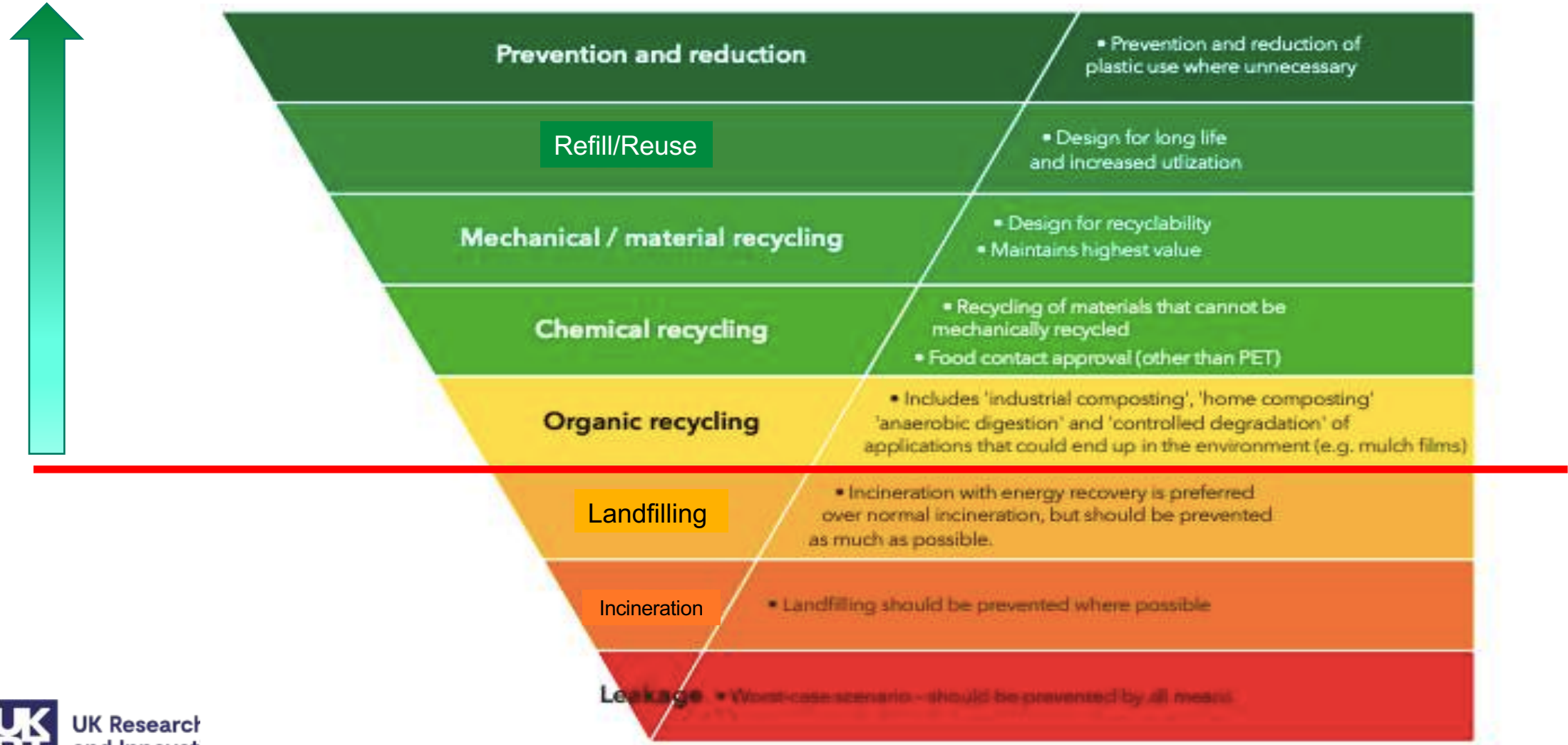
Clear Environmental Issues with Plastics Packaging

EMF new Plastics Economy 2016

- Consequence of neglecting plastics packaging waste issue
- Getting fugitive plastics into landfill could be an achievement!
- A long way from a truly circular materials



What Should Our Plastic Packaging Priorities Be?





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Drivers for Change



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Enormous and Complex Regulatory Change

- Extended Producer responsibility reform (>80% of net costs to be paid by producers)
- Deposit Return Scheme
- Virgin plastics packaging tax
- Consistent collection proposals (film in or out?)

How will these interact?



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Reduce and Reuse

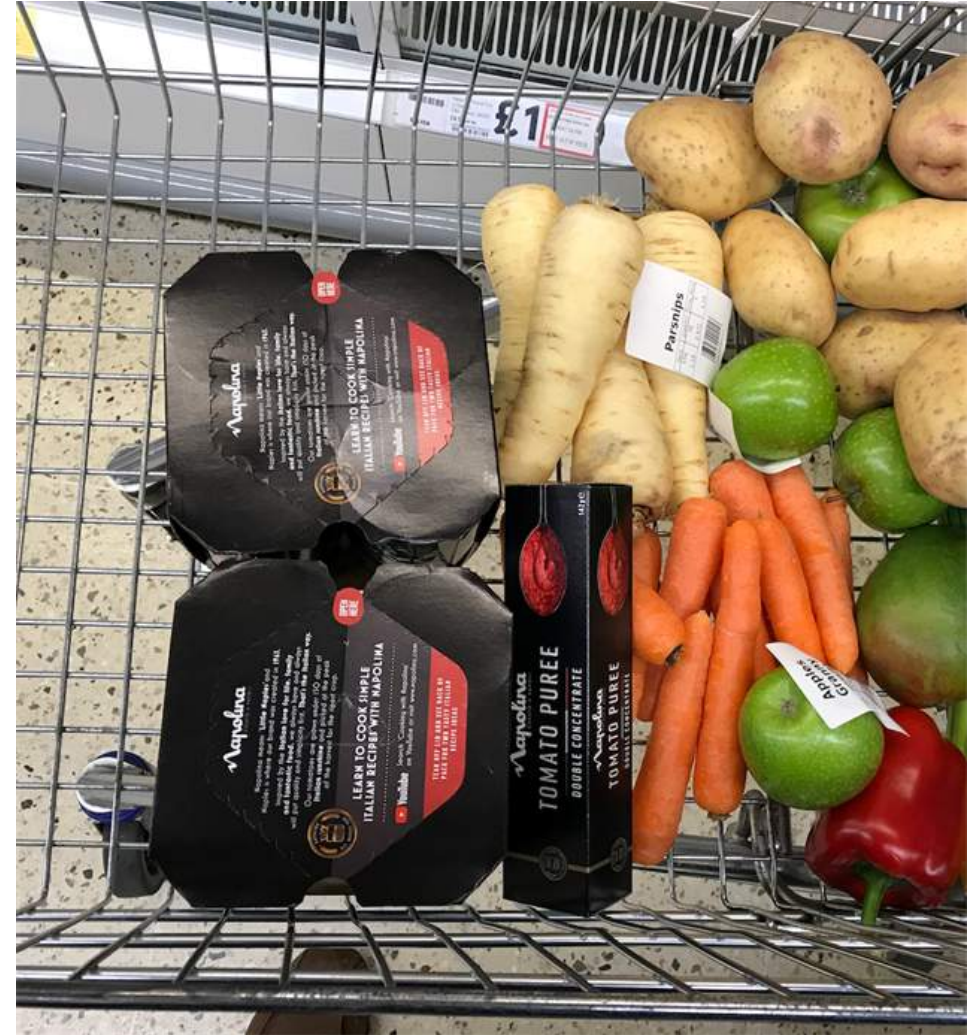


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Reduce

- Unwrapped shopping?
 - Implications (losses, shelf life etc.)
- Light weighting (are we beyond this now?)



INDUST
STRATE



Challenges to Refill: Identifying a Compelling Proposition

- Must be compelling for:
 - The brand owner
 - The logistics operator
 - The Retailer
 - The consumer



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Recycling

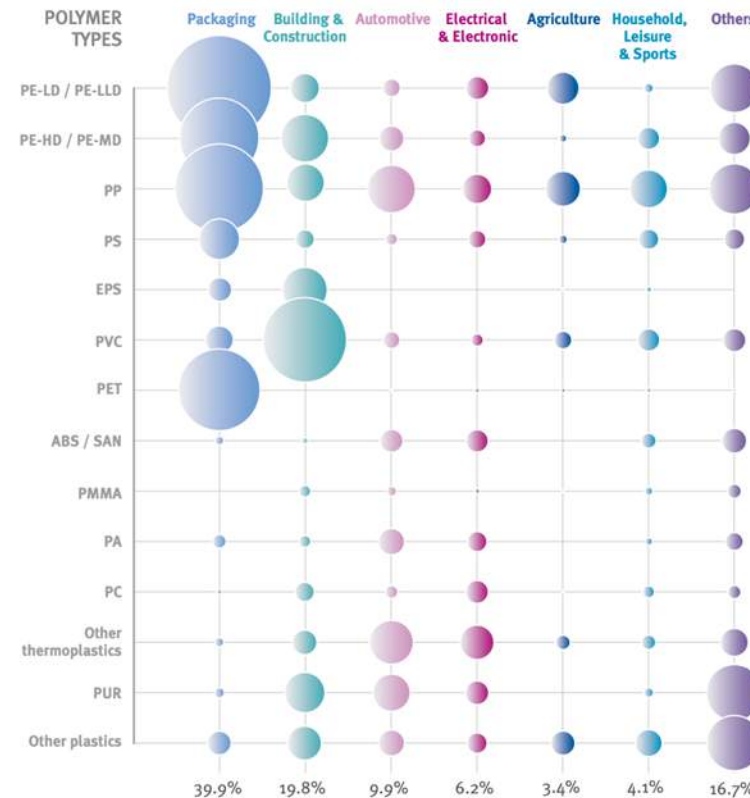


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Virgin Plastics Use Determines Markets for Mechanically Recycled Plastics

- Recycled plastics have generally best environment impact when they replace virgin plastics
- Packaging is the dominant application for virgin plastics
- The strategically most important end application for recycled plastics is virgin plastic replacement in packaging



Plastics demand by segments and polymer types in 2018. Total 51.2 M t

Data for EU28+NO/CH.

SOURCE: PlasticsEurope Market Research Group (PEMRG) and Conversio Market & Strategy GmbH

UK Situation: 2.3mt Plastics Packaging Placed on the Market 2018

- Recycling rates have stagnated
- Export declining but still dominates
- Limited growth in UK reprocessing capacity



Source: NPWD

SSPP Recycling Strategy – target areas



Design for recycling (more recyclable pack designs)



Behavioral change to increase collection rates, reduce littering



Collection, identification and sorting technologies (+ data)



Promote UK capability to return recycled plastics to packaging applications

Food contact recycling (technology, identification, regulation)
Chemical recycling of polyolefins to supply UK crackers
Other non-mechanical recycling technologies (eg solvent based)



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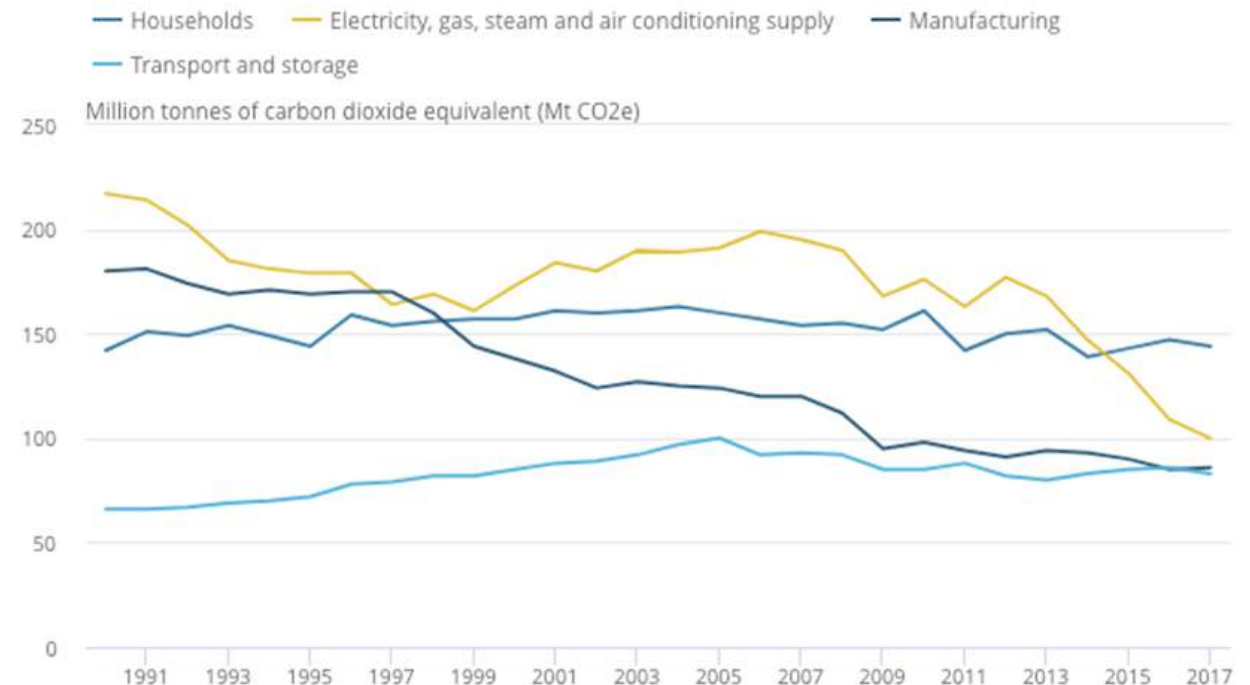


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What about Carbon?

- CO₂ from the production of polymers for packaging used in the UK = c5-8mt/a
- Plastics production and disposal could account for 17% of the global carbon budget by 2050 (1.5C scenario)
- As the UK moves to net zero we will need low fossil carbon solutions

Greenhouse gas emissions for the four highest-emitting industries, including households, UK, 1990 to 2017



Role of Compostable and Biopolymers?

INTRODUCTION	WHAT IS COMPOSTABLE PACKAGING?	TODAY'S LANDSCAPE	WHERE CAN I USE COMPOSTABLE PLASTICS?	COMMUNICATIONS	DECISION MAKING GUIDANCE	GLOSSARY & STATIC DECISION TREES	◀ ▶
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KEY POTENTIAL APPLICATIONS

Firstly, consider if the packaging/item is needed at all.

Flexible packaging likely to be food contaminated could be particularly useful as well as the following applications, provided the appropriate design, labelling and treatment infrastructure are in place.

FOOD CADDY LINERS



and other bags such as compostable carrier bags or fruit and veg bags that could be used as food caddy liners.

FRUIT AND VEG STICKERS



It is particularly beneficial for stickers to be compostable in cases where the skin is unlikely to be eaten.

TEA BAGS



packaging labels should clearly advise consumers to dispose of in their food waste caddy.

COFFEE PODS



(where there is clear labelling and clearly distinguishable from conventional pods)

READY MEAL TRAYS



where they will be food contaminated.

CLOSED LOOP SITUATIONS



for example at festivals, within individual buildings or coffee shops. **Key to success is the control of other materials** to ensure that there is no contamination of the organic collection points, which would then condemn all of it for disposal. Reusable alternatives should always be prioritised where possible e.g. crockery and cutlery that can be washed and reused.



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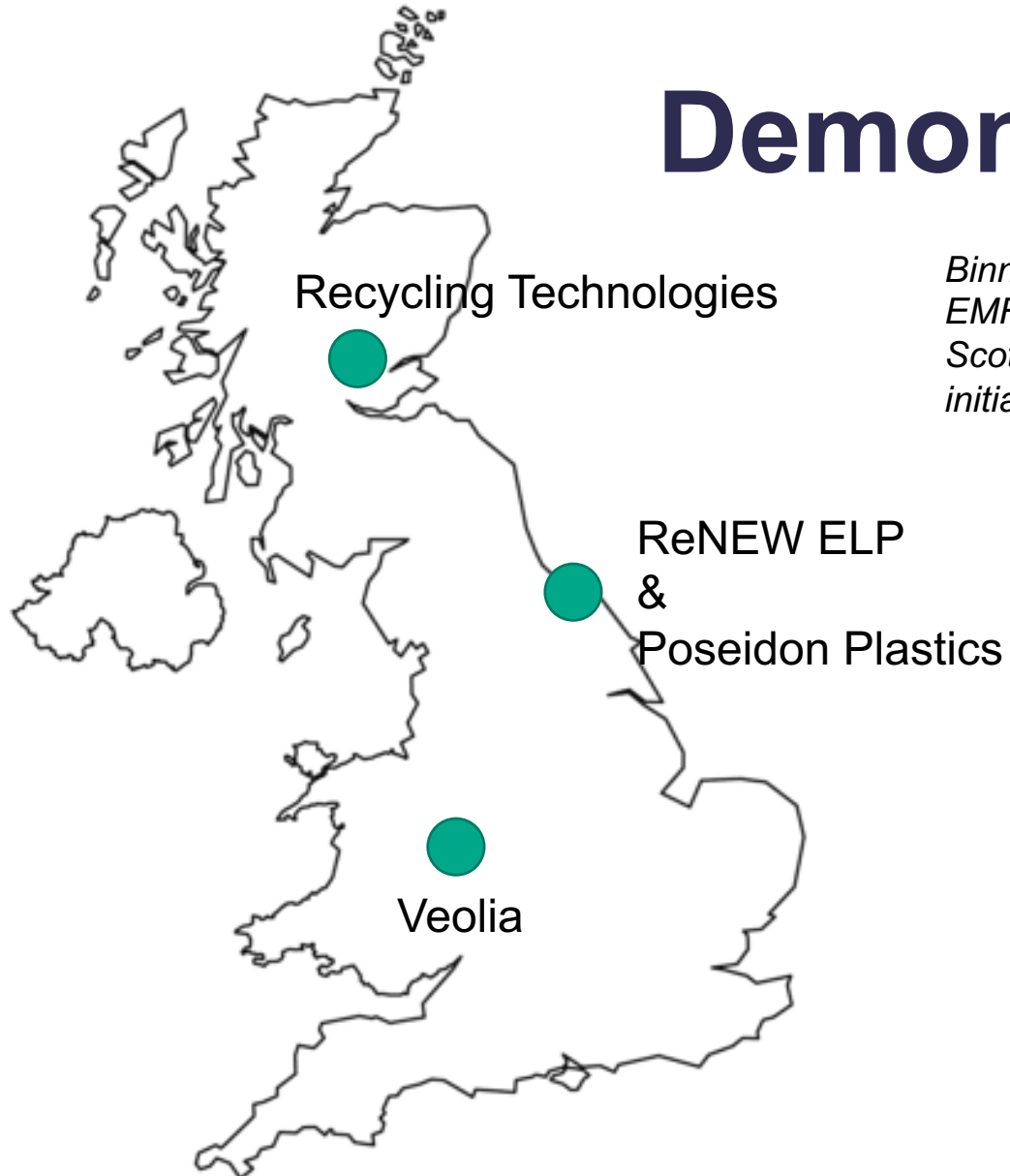
Examples of Projects Already Funded by SSPP



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Large Scale Demonstrators Round 1



Binn Park is the site of the EMF and Zero Waste Scotland Project Lodestar initiative.

1. Scotland
2. North East
3. West Midlands

Emergent cluster at the Wilton International site

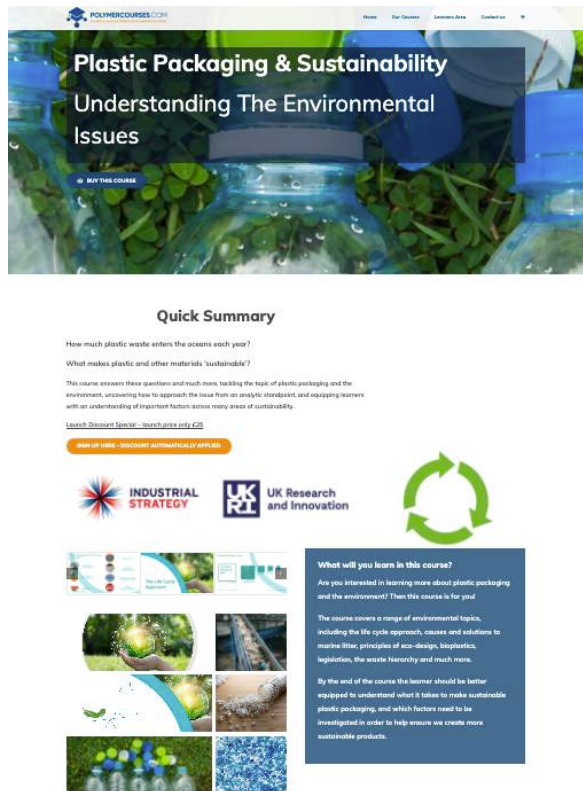
Enabling Research (£8m), 10 Projects Selected

Organisation	Title
University College London	Compostable plastics: unlocking existing barriers to systems change
University of Cambridge	Smart Sustainable Plastic Packaging from Plants (S2UPPlant)
Brunel University London	Providing the 30% recycled content for food packing (PFP)
University of Sheffield	Many Happy Returns - Enabling reusable packaging systems
The University of Manchester	One Bin To Rule Them All: Modern Waste Management Toward Zero Plastic Release
University of Strathclyde	Biocomposite design for food packaging
City, University of London	Reducing plastic packaging and food waste through product innovation simulation
Lancaster University	Understanding the embeddedness of plastic packaging in consumers' lives: Bridging the attitude-behaviour gap
Loughborough University	Perpetual Plastic for Food to Go (PPFTG)
University of Liverpool	Post-Consumer Resin - Understanding the quality-performance linkage for packaging



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Training Programmes with the BPF



The screenshot shows the homepage of the PolymerCourses.com website. The main header features the title 'Plastic Packaging & Sustainability' and the subtitle 'Understanding The Environmental Issues'. Below this is a 'BUY THE COURSE' button. A 'Quick Summary' section follows, posing questions about plastic waste and sustainability. It includes a 'Launch Document Explorer - Download documents or articles' button. Logos for 'INDUSTRIAL STRATEGY' and 'UK Research and Innovation' are displayed, along with a circular arrow icon. A grid of images illustrates various aspects of plastic packaging and sustainability. A blue box on the right titled 'What will you learn in this course?' provides a detailed description of the course content, including topics like life cycle approach, waste and solutions to marine litter, principles of eco-design, bioplastics, legislation, the waste hierarchy, and much more. It also mentions that by the end of the course, learners should be better equipped to understand what it takes to make sustainable plastic packaging and which factors need to be investigated to help ensure the creation of more sustainable products.

POLYMERCOURSES.COM

Plastic Packaging & Sustainability
Understanding The Environmental Issues

BUY THE COURSE

Quick Summary

How much plastic waste enters the oceans each year?
What makes plastic and other materials 'sustainable'?

This course answers these questions and much more, tackling the topic of plastic packaging and the environment, uncovering how to approach the issue from an analytic standpoint, and equipping learners with an understanding of important factors across many areas of sustainability.

[Launch Document Explorer - Download documents or articles](#)

INDUSTRIAL STRATEGY

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What will you learn in this course?

Are you interested in learning more about plastic packaging and the environment? Then this course is for you!

The course covers a range of environmental topics, including the life cycle approach, waste and solutions to marine litter, principles of eco-design, bioplastics, legislation, the waste hierarchy and much more.

By the end of the course the learner should be better equipped to understand what it takes to make sustainable plastic packaging, and which factors need to be investigated in order to help ensure we create more sustainable products.



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Funding Opportunities



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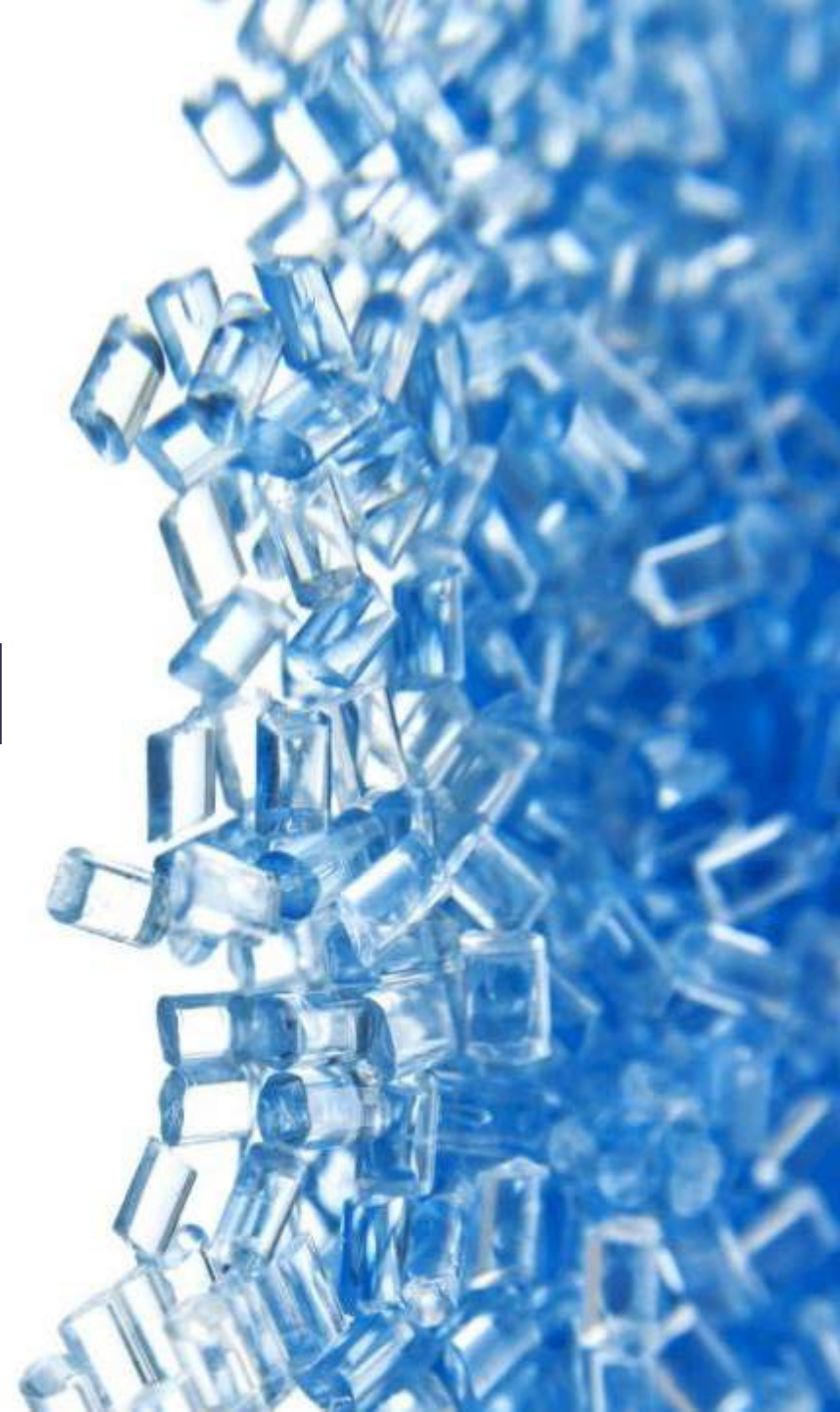


Largescale Demonstrators Round 2

Competition Information



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ISCF Smart Sustainable Plastic Packaging: Demonstrators (Expression of Interest)

- **Opens** 8th February 2021 – **£16m fund**. Grants from **£1m** up to a maximum grant of potentially **£12m**.
- For **ambitious, large scale Demonstration Projects** which are **business led** and **collaborative**.

All projects must:

- support the UK to deliver one or more of the UK Plastic Pact targets
- clearly explain how they would reduce the UK plastic packaging system's overall environmental impact
- utilise innovation in design, technology, processes, business models, supply chains or data for plastic packaging

We are particularly interested in projects which demonstrate at commercial scale:

- minimised / reduced plastic packaging
- enable refill at scale
- sustainable solutions for film & flexibles
- food grade recycled polypropylene and polyethylene
- behaviour change leading to less packaging waste and/or higher recycling rates
- addressing the UK Plastics Pact target for problematic or unnecessary single use plastic packaging items

D2 Intervention rates

Experimental Development

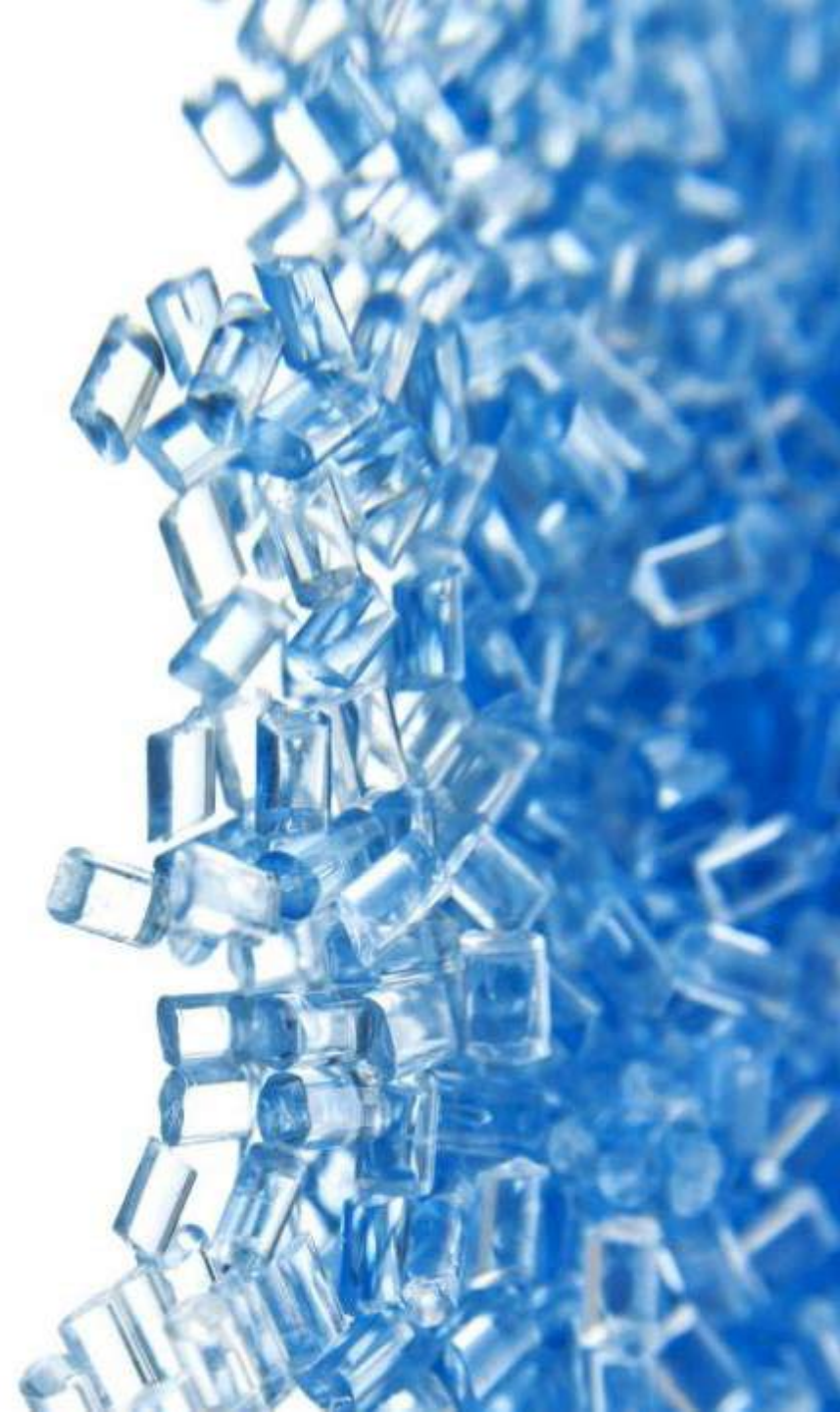
- up to 45% if you are a micro or small business
 - up to 35% if you are a medium-sized business
 - up to 25% if you are a large business
-
- Your project may have a minority of Industrial Research work packages in it.
 - Capital may now be considered as an eligible cost
 - Value for money remains a factor

Business Led Research and Development

Competition Information



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ISCF Smart Sustainable Plastic Packaging: Business-led Research & Development (BLR&D)

- **Opens in March 2021 - £8m fund** – grants between **£200k** and **£4m**
- For **Research and Development Projects** which are **Business-Led**.

All projects must:

- support the UK to deliver one or more of the UK Plastic Pact targets
- clearly explain how they would reduce the UK plastic packaging system's overall environmental impact

We are particularly interested in R&D projects which:

- minimise / reduce plastic packaging
- enable refill at scale
- create sustainable solutions for film & flexibles
- enable food grade recycled polypropylene and polyethylene
- promote behaviour change leading to less packaging waste and/or higher recycling rates
- address the UK Plastics Pact target for problematic or unnecessary single use plastic packaging items

BLR&D Intervention rates (may change after 1st Jan 2021)

Industrial Research	Experimental Development
up to 70% if you are a micro or small business up to 60% if you are a medium-sized business up to 50% if you are a large business	up to 45% if you are a micro or small business up to 35% if you are a medium-sized business up to 25% if you are a large business

- Your project may well have Industrial Research and Experimental Development work packages in them. The relevant intervention rates should be applied.
- research organisations undertaking non-economic activity as part of the project can share up to 50% of the total eligible project costs. If your consortium contains more than one research organisation undertaking non-economic activity, this maximum is shared between them
- Value for money remains a factor

Refill Projects (a few tips)

Retailer Main Priorities for a Refill System

- Scalable
- Simple
- Cost effective
- Accessibility for differently abled people – simple and easy to us
- Price point
- Positioning with packed alternatives to allow price comparison?
- Must work in different store formats
- Must be cost effective to ensure the customer feel great value for money is being offered.

UKRI Perspective

- It should have clear benefits for:
 - Brand owners
 - Logistics operators
 - Retailers
 - Consumers
- The trial would ideally at least have some of these features:
 - Multi brand
 - Multi product category
 - Multi retailer and multi-site
 - Multi store format
 - Multi demography
 - Clear and committed route to implementation if successful

Funding Summary

Competition	Details	Funding	Competition Opening date	Competition Closing date	Winners Notified	Start of Projects	End of Projects
Business-led R&D	• Single Company or Collaboration • Max Grant £4m • 1 to 3 year duration	Maximum allowed limit	29/03/2021	30/06/2021	Aug-21	Nov-21	Oct-24
Demonstrator Projects Round 2 EoI	• Expression of Interest • Collaborations only • Max Grant £12m • Min Grant £1m • Up to 3 years	No funding on offer	08/02/2021	24/03/2021	May-21		
Demonstrator Projects Round 2 Full Application Stage	• Invitation only • Collaborations only • Max Grant £12m • Min Grant £1m • Up to 3 years	Maximum allowed limit	04/05/2021	14/07/2021	Nov-21	Mar-22	Mar-25

Summary

- SSPP is not "anti plastic packaging", but overuse and waste management issues mean its role in a sustainable future is now in question
- There are imminent regulatory, fiscal and policy changes which will potentially have a profound impact on plastics use and recycling
- The Plastics Pact has established both targets and whole-supply chain collaborative framework for achieving the targets that SSPP has adopted
- SSPP will implement a balanced Reduce, Reuse, Recycle strategy ensuring focus will be applied where the greatest impact can be achieved
- Low fossil carbon solutions are going to be required to retain the benefits of plastics for the future

Summary (cont)

- 2 remaining competitions to cover a range of project sizes
- **Substantial** funding is available to help make this happen
- We want to see **bold, ambitious, large-scale** proposals
- These are likely to be complex projects so please start working on your proposal sooner rather than later
- Submitting compelling proposals isn't that easy, **seek advice** to maximise your chances of success (KTN free advisory service)
- Sign up for D2 briefing event 9th February

Thank You

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www.ukcpn



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