Press release: Food scraps could be turned into environmentally friendly plastic packaging

- UK to lead the world in development of sustainable packaging thanks to up to £60 million of new government funding, including food scraps potentially being transformed into environmentally-friendly plastic bags and cups
- smart labels on packaging could end confusion over what rubbish goes in which recycling bin and sustainable packaging with a living sell-by-date could show consumers when food is going off to reduce food waste
- new bioeconomy sector strategy and world-leading standards to help boost the bioeconomy as we move to a greener, cleaner economy – part of our modern Industrial Strategy launched almost a year ago

Household food scraps could be transformed into environmentally-friendly plastic bags and cups, thanks to up to £60 million of new government funding.

Innovators are being challenged to make the UK a world-leader in creating sustainable packaging and reduce the impact of harmful plastics on the environment, as the UK seizes the economic opportunity of the global shift to greener, cleaner economies – a key part of the government's modern Industrial Strategy.

The funding, to be bolstered by industry support, and delivered by UK Research and Innovation (UKRI) through the Industrial Strategy Challenge Fund could help develop:

- new forms of packaging and plastic – made from farming, food and industrial waste, like sugar beet, wood chippings and food waste – moving away from oil-based plastics
- smart packaging labels – which, alongside a smart bin, could tell consumers the right bin to put recycling into and revolutionise the way recycling is sorted in waste plants
- 'live' sell-by-date patch – a living sell-by-date which deteriorates at the same rate as produce to show consumers when their food is going off – cutting down on food waste
- reduce single use plastics – increase use of recycled plastic in new products

Businesses will be able to access this funding through UKRI managed competitions to meet the challenge of developing smart sustainable plastic packaging.

This investment is subject to industry entering into partnership with government and providing significant co-investment to this challenge.

To mark the investment in sustainable plastic packaging, the government today

also announced a strategy to help boost bioeconomy. It sets out an ambition for world-leading standards for bio-based and biodegradable plastics, to create new sustainable materials and reduce the impact of plastics on the environment.

Last year UK sales of packaging totalled around £11 billion and this new innovation funding could help to boost the sector by a further £500 million a year, with the use of packaging growing due to changing consumer behaviours like the increasing popularity of online shopping.

A year since the government launched its landmark modern Industrial Strategy – the UK's post-Brexit blueprint for the economy – this new strategy sets out a vision for the UK to build on its world leading science and research base to become a global leader in finding innovative alternatives to fossil fuel-based products, using sources ranging from the by-products of whisky production to seaweed. This would enhance the UK's position as beacon for investment in the bioeconomy, supporting innovation and stimulating economic growth.

Energy and Clean Growth Minister Claire Perry said:

> Finding innovative solutions to tackle our use of harmful plastics which blight our land and seas is a major global challenge, and opportunity – one our nation of researchers and innovators is fit to seize.
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> Today's funding and sector strategy enhances our position as a global leader on improving our environment and tackling climate change. It will make us a beacon for design, manufacturing and exporting of sustainable plastics and environmentally-friendly replacements for polluting products as we move to a greener, cleaner economy – a key part of our modern Industrial Strategy.

It is estimated there are over 150 million tonnes of plastic in the world's oceans and every year one million birds and over 100,000 sea mammals die from eating and getting tangled in plastic waste. A recent report estimates that plastic in the sea is set to treble by 2025.

The UK is recognised as best in the world for researching solutions to tackling plastic waste and bioscience, with £140 million already invested in sustainable plastics over the last three years.

The UK government is committed to being a global leader in tackling the issue of plastic pollution, with a world-leading ban on microbeads and 5p charge on single-use plastic bags, which has seen distribution by major supermarkets drop by 86%. Earlier this year it also launched its plan to ban the distribution and sale of plastic straws, drinks stirrers and cotton buds to protect our rivers and seas and pledged earlier this year to introduce a deposit return scheme do drive up recycling of single use drinks containers, subject to consultation.

The UK government has also shown its global leadership by committing a £61.4 million package of funding to boost global research and help countries across the Commonwealth stop plastic waste from entering the oceans in the first place.

The government is also looking at further ways to reduce avoidable waste and recycle more as part of its Resources and Waste Strategy to be published shortly.

It has also been announced today, through the Strategic Priorities Fund, that a collaborative research programme will boost food security by countering diseases that threaten crop production and threaten plant health. 'UK Animal and Plant Health: understanding and countering bacterial plant diseases will be managed by UK Research and Innovation and be delivered in phases.

Clean Growth Grand Challenge

The Industrial Strategy sets out 4 Grand Challenges, including Clean Growth, to put the UK at the forefront of the industries of the future, ensuring that the UK builds on its strengths and takes advantage of major global changes, improving people's lives and the country's productivity.

We will maximise the advantages for UK industry from the global shift to clean growth – through leading the world in the development, manufacture and use of low carbon technologies, systems and services that cost less than high carbon alternatives. The move to cleaner economic growth – through low carbon technologies and the efficient use of resources – is one of the greatest industrial opportunities of our time. By one estimate, the UK's clean economy could grow at 4 times the rate of GDP. Whole new industries will be created and existing industries transformed as we move towards a low carbon, more resource-efficient economy.

The Industrial Strategy

The Industrial Strategy, published last year, set out how the whole of the UK can build on its strengths, extend them into the future, and capitalise on new opportunities. Investing in science and research to keep us at the forefront of new technologies and the benefits they bring. Nurturing the talent of tomorrow – through more outstanding schools, world-leading universities and the technical skills that will drive our economy. And transforming the places where people live and work – the places where ideas and inspiration are born – by backing businesses and building infrastructure not just across every part of our country.

It has been taken forward at pace over the last year:

- innovative ideas that bring together world-class UK science, research and innovation to develop cutting edge products and services of the future have received an extra £1.7 billion making it the largest increase for 40 years (to £7 billion). That includes £210 million to develop new medical diagnostic tools and treatments, £90 million for the

food and farming industry to embrace agri-tech and £184 million for 41 UK universities to train the next generation of world-class scientists and engineers
- 6 sector deals between government and industry have been published – from construction and automotive to nuclear and the creative industries, including £1.9 billion of investment in life sciences and £1 billion for artificial intelligence. They are not only about attracting investment and growth, but also ensuring we have the skilled, diverse workforce we need for the future
- plans for new technical qualifications (T-levels) and to transform the quality and quantity of apprenticeships
- furthered the connectivity of Britain's towns, cities and rural areas, including the first allocations of the £190 million full-fibre challenge fund and £25 million for 6 5G testbeds across the UK
- opened the Transforming Cities Fund with billions of pounds ready to go to projects that drive productivity by improving connections within city regions
- opened the Faraday Institution in Oxford to keep the UK at the forefront of global battery manufacture
- announced plans for a new spaceport in Sutherland
- the UK now has the fastest growing infrastructure investment across the G7, providing £31 billion of additional capital spending to areas critical to improving productivity
- launched the £9 million Centre of Data Ethics and Innovation to act as an advisory body to government and regulators on ethics of data and its use, including for AI
- launched the Patient Capital Fund, which will invest £2.5 billion in our most innovative companies

Notes to editors

1. Up to £60 million of public funding will be available for the Smart Sustainable Plastic Packaging challenge, through the Industrial Strategy Challenge fund, depending on business case approval and securing appropriate industrial co-funding.

2. The Industrial Strategy Challenge Fund is delivered by UK Research and Innovation.