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.
>
> 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.

Press release: £1.3 billion industry/government investment in UK economy and new partnership driving

early disease detection

- life-saving early disease detection technology to be developed by new partnership between government and industry using artificial intelligence (AI) to develop the next generation of treatments, including a first-of-its-kind national health programme
- the second Life Sciences Sector Deal, with industry investment from 10 companies, will support healthcare innovation and back businesses to create high-paid, high-quality jobs as part of the government's modern Industrial Strategy
- the deal signals a vote of confidence in UK industry, with global biopharmaceutical company UCB investing around £1 billion in research and development, including in a new state-of-the-art facility

Tens of thousands of lives could be saved by pioneering research to detect deadly diseases before symptoms even appear, thanks to a new collaboration between the government and the Life Sciences Industry. The deal will also announce that global biopharmaceutical company UCB is investing £1 billion in research and development, including in a new state-of-the-art facility, continuing the UK's reputation as a world leading base for global life sciences research and industry.

The programme, backed by up to £79 million of government funding, will study 5 million healthy people to develop new diagnostic tests using AI and is part of the government's Life Science's Sector Deal 2, announced today by Businesses Secretary Greg Clark and Health Secretary Matt Hancock.

The deal, which brings together 10 companies and is backed by wide range of organisations from across the sector, includes more than £1.3 billion of investment between the public and private sectors. It ensures the UK remains in pole position in the treatments of today, while creating the industries and treatments of the future such as genomics and AI-powered diagnosis.

Business Secretary Greg Clark said:

> From the first vaccine to the discovery of DNA, the UK has always been at the forefront of medical endeavour and healthcare innovations. That is why we are building on our unique strengths by placing life sciences at the centre of our modern Industrial Strategy, backed by the biggest increase in public research and development investment in UK history.
>
> This is our modern Industrial Strategy in action as we work hand in hand with industry to ensure the UK remains the go-to destination for launching new businesses, new discoveries and treatments to benefit health around the world.
>
> The announcement of UCB's investment in new research and development is a clear vote of confidence in UK life sciences research base and business.

The programme – Accelerating Detection of Disease – will be led by Professor Sir John Bell and brings together the NHS, industry and leading charities including Cancer Research UK, the British Heart Foundation and Alzheimer's Research UK. It will be the largest ever study of its kind collecting such a range of data from healthy volunteers over years. This will help deliver the Early Diagnosis Mission – a key part of the Industrial Strategy's AI and Data Grand Challenge. Businesses will be able to access this funding through UKRI managed competitions.

Researchers will study how the group's health changes, identifying common characteristics to understand how and why diseases develop. The ambition is to empower everyone to understand their risk of developing diseases and take steps to remain healthy for longer. The project will attract investment from global life science companies seeking to develop new diagnostic tools and treatments.

It is estimated that if late stage diagnosis were halved across bowel, ovary, prostate and lung cancer, over 55,500 more people would be diagnosed at an early stage, potentially resulting in 22,500 fewer deaths per year within 5 years of diagnosis.

In a meeting with industry leaders at No10, the Business Secretary announced that as part of the Sector Deal a new £150-200 million research and development facility of global biopharmaceutical company UCB will be built in the UK as part of a total investment of around £1 billion over the next 5 years. The transition to this state-of-the-art facility will support around 650 jobs and further boost the UK's reputation for developing world-leading medical treatments and technologies.

Health Secretary Matt Hancock said:

> I want the UK to have the most advanced health and care system on the planet. Technology and artificial intelligence have the potential to revolutionise healthcare by unlocking the next generation of treatments, diagnosing diseases before symptoms appear and helping patients take greater control of their own health.
>
> Our world-leading plans to map 100,000 genomes is just one example of how innovation can deliver life-changing results for patients and we want to build on its success to provide patients with truly personalised care.

Jean-Christophe Tellier, Chief Executive Officer at UCB, said:

> At UCB, we are proud of our heritage in the UK and I am very pleased to announce our planned investment to support the construction of a major R&D hub in the UK, which will enable us to build upon our numerous active collaborations with UK universities, biotechs and medical research charities, and continue our

> successful track record of bringing innovative medicines discovered in the UK to patients globally
>
> Access to world class talent remains vital to R&D and we therefore look forward to working closely with government to support the full implementation of Sir John Bell's Life Sciences Industrial Strategy, and importantly, to ensure that patients in the UK have quicker access to the innovative medicines researched and developed here.

Professor Sir John Bell said:

> This Sector Deal is another major step forward for the Life Sciences Industrial Strategy in the UK. It has been hugely enabled by government and will initiate new projects that will be a magnet for further investment.
>
> Together, industry, charities, government and the NHS can tackle some of the major challenges to healthcare systems, including ageing and early diagnostics and, in doing so, can grow the economy and demonstrate what a modern Industrial Strategy looks like in action.

Secretary of State for International Trade, Dr Liam Fox MP said:

> The UK remains the leading destination for life sciences inward investment in Europe, second only to the US globally. Major global companies continue to commit to the UK as an investment and operating location.
>
> At home we are also nurturing the next crop of global businesses and future exporters, such as the companies in our thriving cell and gene therapy industry. Last year the UK exported around £30 billion in life sciences products – there is worldwide demand for our innovative products and our excellent services.
>
> As an international economic department, our role is to promote the UK abroad, capitalising on the demand for our goods and services and drive investment into our industries. Our team of HM Trade Commissioners and overseas network are based in 108 markets, providing a vital link for businesses as we seek to make the most of opportunities presented by leaving the European Union.

Other new announcements as part of the Life Sciences Sector Deal include:

- A further £30 million investment in the UK by healthcare company Roche, including a £20 million investment over 3 years in a precision cancer research partnership with the Christie NHS Foundation Trust in

Manchester. This will use cutting-edge genomic technology and big data to accelerate the next generation of digital clinical trials for rare cancers, making the UK a leading global hub for rare cancer trials, potentially benefiting nearly 5,000 patients annually
- Measures to further strengthen the UK environment for clinical research, including through IQVIA investing £24 million facilitated by the National Institute for Health Research in a Prime Site for clinical trials across the North of England, and IQVIA and Genomics England announcing a new £20 million partnership to enable more efficient drug research and support accelerated discovery of personalised medicines for NHS patients
- Over £80 million of investment in the UK from 5 rapidly growing cell and gene therapy companies. The majority of this investment will be in cutting-edge manufacturing facilities, building on the government investment in advanced therapies manufacturing made in last years' Sector Deal. Autolus have planned to invest a further £50 million to expand its UK presence, including a new global headquarters with laboratories in White City. Oxford BioMedica, Cobra Biologics, and Roslin CT are planning investments of £19 million, £8 million, and £4 million respectively to scale up their UK cell and gene therapy manufacturing facilities. Bellicum, an inward investor, has committed to its first European investment in the UK with £2 million and 20 jobs initially.

Today's announcement builds on the first Life Sciences Sector Deal, published in December 2017. The deal committed nearly £500 million of government investment into UK life sciences, backed by more than £1 billion of private sector investment, to build on the sector's strengths, help to secure thousands of jobs and ensure that new medicines and technologies are created in the UK.

In the last year its achievements have included:

- kick-starting the largest whole genome sequencing project ever undertaken, helping to develop new tests and treatments for cancer and rare diseases
- establishing a network of 5 centres of excellence in digital pathology and radiology to supercharge new diagnostic industries
- Implementing the Accelerated Access Review with government, industry, the NHS and its partners working together to put NHS patients at the forefront of the latest advances in healthcare

It has also been announced today, through the Strategic Priorities Fund, that research programmes will be awarded over £35 million to boost medical science. The first programme will seek to better understand tissue development through the Human Cell Atlas initiative, whilst the second will bring together the physics and biology communities to address key questions in biological and biomedical sciences.

The new Life Sciences Sector Deal further strengthens the UK's world-leading capabilities in the likes of genomic science, Big Data assets and gene and cell therapies, ensuring we are at the forefront of new industries in areas

such as genomics and AI-driven diagnostics.

The UK remains the number 1 destination for life sciences inward investment in Europe, ranks number 2 globally behind the US, and has also grown a thriving domestic industry with more than 5,600 companies supporting 240,000 jobs and generating a turnover of around £70 billion per year. All of the top 25 global pharmaceutical companies, and the top 30 global medical technology companies, operate in the UK. The UK also accounts for 12% of total life sciences academic citations and 18% of the most-cited publications – the second highest share above China, Germany and Canada.

The up to £79 million Accelerating Detection of Disease programme will be delivered by UK Research and Innovation through the Industrial Strategy Challenge Fund, subject to business case approval and match funding from industry.

UCB is a global biopharmaceutical company focused on the discovery and development of innovative medicines and solutions to transform the lives of people living with severe diseases in immunology or neurology. The investment around £1 billion over the next 5 years will include £150-200 million to build a new, purpose-built state-of-the-art facility enabling cutting-edge R&D, early manufacturing and commercial operations. The transition to this new facility will support around 650 high-skilled jobs, mainly in scientific research and early manufacturing. The investment will allow UCB to continue their innovative research in areas of unmet patient need, deepen their collaborations with UK organisations, and solidify their position as a leader in UK life sciences. UCB's new facilities will be based in or close to the wider Slough area and will be announced subject to UCB finalising their search for a suitable location and agreed contractual negotiations.

The Ageing Society mission with the modern Industrial Strategy is to ensure that people can enjoy at least 5 extra healthy, independent years of life by 2035, while narrowing the gap between the experience of the richest and poorest.

It is estimated that by 2033 if late stage diagnosis were reduced by 50% across bowel, ovary, prostate and lung cancer, over 55,500 more people would be diagnosed at an early stage, which could result in over 22,500 fewer deaths per year within 5 years of diagnosis. This is calculated by Cancer Research UK based on current distribution of stage at diagnosis for cancers with a recorded stage of disease in England (obtained from Public Health England), cancer incidence projections for 2033 and estimates for 5-year cancer survival by stage.

Using data, artificial intelligence and innovation to transform the prevention, early diagnosis and treatment of chronic diseases is the first mission of the AI and Data Grand Challenge. Success in this mission is one of a number of steps towards saving lives and increasing NHS efficiency by enabling earlier diagnosis and reducing the need for costly late stage treatment. The opportunity – working with academia, the charitable sector, and industry and harnessing the power of AI and data technologies – is considerable. It should lead to a whole new industry of diagnostic and tech

companies which would drive UK economic growth.

The Accelerating Detection of Disease project also supports the Ageing Society Grand Challenge mission, which is to ensure that people can enjoy at least 5 extra healthy, independent years of life by 2035, while narrowing the gap between the experience of the richest and poorest.

Press release: World Soil Day marks importance of healthy farmed environment

Today (5 December) is World Soil Day, a UN-led campaign to highlight the importance of healthy soil and the role it plays in society.

Soil holds three times as much carbon as the atmosphere, reduces the risk of flooding by absorbing water and delivers 95 per cent of our global food supplies. For World Soil Day 2018 the UN is calling on people to #StopSoilPollution, noting that one third of our global soils are already degraded.

Outside the EU and the Common Agricultural Policy, a new system of "public money for public goods" will reward farmers for environmental outcomes such as clean air and water, flood prevention, thriving plants and wildlife and the mitigation of and adaptation to climate change. Soil is an important asset that can help deliver many of these outcomes.

Environment Minister Thérèse Coffey, who has been an advocate for soil health after seeing first-hand the benefits of effective management on a farm visit in Lincolnshire, said:

> Everybody has a role to play in looking after our soils and initiatives such as World Soil Day are vital in highlighting the environmental benefits that soil provides for us all.
>
> As we leave the European Union, we have the opportunity to reward farmers for the outcomes they provide by protecting this essential global resource.

Throughout the year, farmers and land managers can take advantage of the free advice, training and events run through Catchment Sensitive Farming, which provides advice on how to improve soil health, make better use of farm resources and help protect the environment.

Earlier this week Natural England scientists visited Wheatsheaf Farming in

Micheldever, Hampshire, to see some of these techniques in practice – including no-till drilling which avoids disturbing the soils and help improve organic matter.

Many farmers and land managers are already signed up to Countryside Stewardship and Environmental Stewardship schemes to deliver benefits for nature, including better management of soil. The next application window for Countryside Stewardship is expected to open in early 2019, with the simpler "wildlife offers" for arable, upland, lowland grazing and mixed farmers all available online.

An 'Ecological Site Classification' system has also been designed by Forest Research to help land managers to find out what trees are ecologically best suited to growing in the soil at their sites. This tool allows them to input a site's grid reference and soil type to give a detailed description of its suitability for growing different tree species.

Speech: The need to secure justice for victims of Da'esh crimes

Thank you very much indeed Mr President and let me begin by repeating in the chamber what I said in the consultations room: our congratulations to you and your mission on assuming the Presidency. We look forward very much to working with you and supporting you. And our congratulations to our Chinese colleagues for the way they conducted the Presidency last month. And I would also like again in the chamber to repeat my condolences to the United States of America on the death of President George H.W. Bush who I had the honour of meeting in the UN some ten years ago.

Mr President turning to today, obviously I would like to thank the Special Advisor to UNITAD for what is his first briefing to the Council since their deployment on the 29th of October. I think the team has made a very good start if I may say so and we look forward to your future work and future briefings.

You said Special Advisor that we really ought to pay tribute to the suffering and the indefatigable courage of the survivors of Daesh violence and I think that's absolutely right. Justice and accountability for the victims needs to be at the centre of our approach. And I want to commend the government of Iraq, the new government, for their commitment to support UNITAD's work. We welcome also UNAMI's continued support to the team. And I would like to recognise UNAMI's efforts to facilitate the deployment of the UNITAD team to Baghdad.

It's important that all efforts on the ground are complementary and avoid duplication. And we're very pleased that UNITAD's budget proposal reflects

the importance of all efforts complementing each other. We're encouraged to see not just the work of the team so far but the fact that there have been contributions from the government of Iraq, from UNAMI, from allied nations and other UN bodies in supporting UNITAD.

Mr President, I think it's crucial that we get these early stages right, including by establishing the mechanism for cooperation between UNITAD and the government of Iraq. This is important for a swift and thorough evidence collection but it also helps ensure that evidence is in a fit state to be used before the courts. And it will, of course, rely on a cooperative and mutually respectful relationship which we are sure will be present.

We very much as the United Kingdom Mr President agree with the strategic vision in the guiding principles regarding lifting these immediate priorities. We were pleased to see a very strong focus on engagement with the government of Iraq. This is obviously going to be crucial to the success of the team's work. And we encourage the steering committee to meet on a regular basis with UNITAD particularly during these early stages of implementation.

The Special Advisor mentioned the importance of voluntary contributions to the trust fund. And I would just want to tell you that we think this should have a voluntary contributions to the investigative team in the form of expertise and skills as well. And I would like to pay tribute to Qatar but also to our Dutch colleagues for their generous contributions. We ourselves have already donated to the trust fund and we remain committed to supporting UNITAD as it fulfils its mandate.

Mr President coming back to where I started, justice for victims remains at the heart of this resolution. It's vital that UNITAD helps to secure accountability for the victims of Daesh's terrible crimes to bring closure to those who still suffer. And this of course includes women and children and minority communities. Thank you very much.

Press release: International Trade Secretary meets leading UK private equity investors

Today, the International Trade Secretary held a roundtable at 10 Downing Street with senior representatives from some of the largest domestic and international private equity investors.