<u>Press release: FCO Minister addresses</u> <u>the Latin American Investment Forum</u>

Speaking at the seventh edition of the annual Latin American Investment Forum in London today (19 October), the Rt Hon Sir Alan Duncan MP, Minister of State for the Americas said:

The UK Government is committed to promoting economic development across Latin America and is proud to be taking a leading role in facilitating that alongside British businesses.

With projects in sectors such as infrastructure, fintech and energy, the UK will continue to work in close partnership with governments throughout the region to strengthen our ties, support our shared economic interests and join forces on vital global issues.

Further information

- Follow Foreign Office Minister Sir Alan Duncan on Twitter <u>@AlanDuncanMP</u> and <u>Facebook</u>
- Follow the Foreign Office on Twitter <a>@foreignoffice and <a>Facebook
- Follow the Foreign Office on Instagram, YouTube and LinkedIn

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Press release: PM meeting with PM Lee Hsien Loong of Singapore: 18 October 2018

A Downing Street spokesperson said:

"The Prime Minister met with Prime Minister Lee Hsien Loong of Singapore ahead of the ASEM opening ceremony. Foreign Office Minister Mark Field also joined.

"The two leaders began by discussing the desire to deepen bilateral trade ties as well as potential UK involvement in the Comprehensive and Progressive Trans-Pacific Partnership – CPTPP.

"They discussed strengthening cooperation between the UK, Singapore and others in Asia to boost shared prosperity and security – including by deepening the UK's relationship with ASEAN.

"The Prime Minister reiterated the UK's commitment to upholding the rules based international system, including maritime and regional security in South East Asia."

<u>Press release: Mercury's mysteries to</u> <u>be probed by British science</u>

BepiColombo is the first European Space Agency mission to Mercury, the least explored planet in the inner Solar System, and will provide new insight into how the planet closest to the Sun formed and evolved.

The spacecraft will travel 9 billion km taking 7 years to reach Mercury and is designed to survive extreme temperatures, from +450 to -180 degrees.

BepiColombo: mission to Mercury

Science Minister Sam Gyimah said:

As this mission to Mercury sails under the stars we can reflect on the features of UK science that have made it possible. It is a sign of how far our space industry has come in exploring how much further humanity can go.

Much of the spacecraft was built right here in the UK by our

growing space sector, employing nearly 40,000 people right across the country. Our modern Industrial Strategy is building an environment in which it will continue to thrive.

The mission is an outstanding example of international collaboration at the highest level between the European and Japanese space agencies. The UK's involvement is managed and funded by the UK Space Agency.

The UK's founding membership of ESA has given the UK a key role in this mission which will provide a unique science return and maintain the UK's position at the forefront of space exploration by investing in the technology. Every £1 invested in ESA results in a £1 share in contracts for UK companies and universities.

Dr Graham Turnock, Chief Executive of the UK Space Agency, said:

UK scientists, engineers and technicians have played a vital role in developing BepiColombo and the incredibly sophisticated set of scientific instruments on board. The international collaboration involved in this mission shows how our leading role in the European Space Agency is ensuring the UK thrives in the new space age, bringing real benefits to UK companies and scientists.

The UK's contribution to the mission:

- The UK Space Agency funded, and University of Leicester designed and built the Mercury Imaging X-ray Spectrometer (MIXS). This instrument will use novel X-ray optics to determine small-scale features on Mercury and find out what the planet's surface is made of.
- Airbus Defence and Space provided spacecraft structures, electrical and chemical propulsion systems and the systems which will separate the spacecraft modules on arrival at Mercury.
- QinetiQ supplied the innovative electric propulsion system. A beam of charged particles are expelled from the spacecraft to propel it forward. Ion propulsion produces low levels of thrust very efficiently compared with conventional chemical rockets.
- Thales Alenia Space UK supplied the Remote Interface Units that acquire sensor data and telemetry as well as driving the thrusters that control the spacecraft.
- UK teams also provided a hardware contribution to the Finnish led Solar Intensity X-ray & particle spectrometer (SIXS).

Emma Bunce, Professor of Planetary Plasma Physics at the University of Leicester said:

The University of Leicester technical and engineering team has dedicated many years of work to design, develop and build the Mercury Imaging X-ray Spectrometer (MIXS) instrument, in collaboration with multiple institutes and companies across Europe. MIXS is designed to measure fluorescent X-ray photons from the surface of Mercury which will give us details of the elemental composition, and hence provide insight on the formation and evolution of the planet. MIXS will also explore how the charged particle environment interacts with the surface. The dual system of MIXS will allow a good global coverage of the planet using the efficient collimator (MIXS-C) design and will provide unprecedented detail of local-scale features using the first true imaging telescope (MIXS-T) for a planetary mission.

Peter Randall, Electric Propulsion Systems Engineer, QinetiQ, said:

QinetiQ has more than 50 years' experience of developing and testing electric propulsion systems and so we are delighted that our super-efficient T6 ion engines will play such a pivotal role in the seven year voyage to Mercury.

The new T6 ion thrusters have been designed to work for long periods in extremely hostile environments and, powered by solar energy, will enable the spacecraft to reach maximum speed with minimal fuel consumption. The ground-breaking development of these thrusters couldn't have resulted in a more thrilling project and we are proud to be the engine power behind the BepiColombo mission to Mercury.

Justin Byrne, Head of Earth Observation, Navigation and Science, Airbus UK said:

Building a spacecraft that needs to travel billions of km is quite a challenge — but we made it work with the comet chaser Rosetta, and BepiColombo is a worthy successor. All the Airbus teams in Stevenage and Portsmouth will join with their colleagues across the rest of Europe in making sure the launch goes according to plan

Key science objectives are to discover:

- The origin and evolution of a planet close to its parent star
- The planet's interior structure and composition
- Characteristics and origin of its internal magnetic field
- Surface processes, such as cratering, tectonics, polar deposits and volcanism
- The structure, composition, origin and dynamics of Mercury's exosphere
- The structure and dynamics of Mercury's magnetosphere
- Einstein's Theory of General Relativity (by making precise measurements of the spacecraft's orbit and position)

David Rothery, Professor of Planetary Geosciences at the Open University, said:

We really need to understand Mercury better. So much about it seems wrong for a planet that close to the Sun, so maybe it originated further out. A collision with the proto-Earth or proto-Venus could be what robbed it of so much of its original rock.

As a volcanologist though, one aspect that really impresses me about Mercury is all the volcanic explosion vents. They are spectacular evidence of violent eruptions, powered by escaping gas that recurred for much of the past four billion years.

The UK's space sector is going from strength to strength, employing around 40,000 people and carrying our world-class science while growing the economy. In 2016 the UK committed €1.4 billion across a range of ESA space programmes, leading European space research in telecommunications and Earth Observation, while providing cutting-edge capabilities in exploration.

This is all supported by the Government's <u>Industrial Strategy</u>, with major initiatives such as the National Satellite Test Facility at Harwell and the development of a commercial spaceport in Sutherland, Scotland, which could be the first in mainland Europe.

BepiColombo will launch from Europe's spaceport in French Guiana at 02:45 UK time on Saturday (20th October). The spacecraft is named after Giuseppe (Bepi) Colombo (1920-84), an Italian mathematician and engineer, who studied Mercury's orbital motion.

<u>Press release: Life-changing tech</u> <u>industries and fabulous foods of</u> <u>Somerset are key to the UK economy,</u> <u>says Liz Truss</u>

Ahead of the Chancellor's Budget on 29 October, the Chief Secretary to the Treasury, Liz Truss, is visiting technology and agriculture businesses in Somerset.

Liz Truss has praised the output of Somerset businesses and revealed the south west is on pace for a record breaking year of exports.

Latest figures show that Somerset has already exported £10.5 billion worth of goods in the first half of 2018, up on the same period last year.

And since 2010 there are 115,000 more businesses in the south west, all helping to ensure the region has the lowest unemployment rate of any region

in the UK.

Liz Truss said:

The diversity of businesses across Somerset is striking and it underlines the importance of this vibrant region.

From life-changing apps that help children learn maths, to world class food and drink, Somerset is a region that benefits Britons every day.

And it's also showcasing the best of Britain around the world too.

Exports from this area were worth more than £20 billion in 2017, up by 10 per cent on 2016, and we are supporting the ambitions of business to trade more in the future.

Since 2010 taxpayers in Somerset have benefitted from income tax changes, saving the typical taxpayer more than £1,000 a year, and the government's balanced economic approach means local hospitals in Somerset are receiving nearly £90 million to transform their buildings and services, and £10.5 million to improve mental health services for children and teenagers in North Somerset and North East Somerset.

And with fuel duty frozen for the ninth year in a row it means motorists will be able to continue to keep more of what they earn.

Motorists and businesses also benefit from road investment, including upgrades to the M49 near Bristol which will ease congestion and help support economic growth in the south west.

<u>Press release: Call for new green</u> <u>innovations to tackle climate change</u>

- Britain's brightest brains will be invited to launch projects from digital sensors to monitor the environment, to new software to help us adapt to low carbon technologies
- funding announced by Business Secretary Greg Clark as part of Industrial Strategy comes during the first ever Green GB Week, a nationwide week of action on climate change

Britain's best innovators and researchers will be invited to pitch their ideas to help tackle the effects of climate change on towns, cities and the countryside as part of modern Industrial Strategy.

Business and Energy Secretary Greg Clark today (19 October) announced 4 new research programmes to boost the UK's resilience to climate change, develop digital environments, promote clean air and investigate how to use our land to boost health outcomes.

The £60 million funding pot was announced during the first ever <u>Green GB Week</u> – a government-led week of campaigning to encourage businesses, communities, funders and academics to renew their efforts to confront the global challenge of climate change.

The government has put clean growth at the heart of its modern <u>Industrial</u> <u>Strategy</u>, setting out ambitions to reduce carbon emissions while supporting a thriving green economy. Earlier this week the UK became one of the first major industrial economies to ask climate change experts for advice on setting a target for achieving <u>net zero greenhouse gas emissions</u> from across the economy.

Business Secretary Greg Clark said:

Companies are capitalising on the UK's world leading position in the greener economy as we transition to a greener, cleaner economy and is one of the greatest industrial opportunities of our time.

The UK is a world leader in tackling climate change, cutting our emissions more than 40% since 1990 while growing our economy. When you combine Britain's leadership, innovation and determination it is an unbeatable combination — exactly what our Industrial Strategy and Green GB Week are supporting and encouraging.

UK Research and Innovation Chief Executive, Professor Sir Mark Walport, said:

The recent IPCC report is a timely reminder of the challenges we face in tackling climate change. Storm Callum has highlighted the impact that extreme weather events can have on our communities.

It is vital that the evidence generated by research is used effectively to navigate and mitigate the effects of climate change, and new technologies are developed to support a move to a low carbon economy.

The Strategic Priorities Fund is important in supporting UKRI's mission, allowing us to bring collective expertise from a wide range of disciplines and sectors to bear on addressing important matters affecting all of society.

The programmes, administered by UKRI, will bring together a broad range of research disciplines, ranging from mathematics and biology to climate science and technology development to:

- produce better data on climate risks to the UK
- build a digital picture of our natural environment for greater monitoring and analysis of the impact of climate change
- cut air pollution and protect vulnerable groups from its effects
- use our land better, for the benefit of the environment and communities
- developing ways for the UK to adapt to climate change

Chief Scientist of the Met Office, Professor Stephen Belcher, said:

These programmes will allow the Met Office and our partners to make real progress in two areas of significant environmental impact: air pollution and climate change.

Working together with other world-leading scientists from the UK's academic community, we will be able to deliver tools and services which will benefit the lives and livelihoods of people across the UK.

Competitions for the programmes will open in the coming weeks. Researchers and innovators can visit the <u>UKRI website</u> for updates.

The funding comes as part of the Strategic Priorities Fund, delivered by UKRI to drive an increase in high quality multi- and interdisciplinary research and innovation. It will ensure that UKRI's investment links up effectively with government research priorities and opportunities. Further programmes will be announced in the coming months.

Notes to editors

1. The 4 research programmes are:

UK Climate Resilience

- NERC and the Met Office with EPSRC, ESRC, DEFRA, The CCC Adaptation Sub-Committee
- funding: £18.7 million

The programme will harness multidisciplinary expertise to deliver robust climate risk and solutions research, which ensures the UK is resilient to climate variability and change, and powerfully positioned to exploit the opportunities of adaptation and green growth. Coming together with policymakers and industry, the programme will bring impacts that benefit the UK economy and safeguard the public.

Clean Air: Analysis and Solutions

- NERC and the Met Office with EPSRC, ESRC, Innovate UK, MRC, NPL, DEFRA, DHSC, DfT
- funding: £19.6 million

Air pollution is responsible for up to 40,000 early deaths and a cost of up

to £20 billion to health services and businesses every year. This programme will develop solutions to air pollution to help policymakers and businesses protect health and work towards a cleaner economy. The programme will predict future air quality challenges, identify the most vulnerable groups in society, improve new technologies and policies for reducing air pollution, and create a system for providing robust consistent advice to decision makers.

Constructing a Digital Environment

- NERC with EPSRC, Innovate UK, DEFRA, Cabinet Office
- funding: £10.4 million

This programme will apply the latest technologies to environmental data from sensor networks across the UK, to deliver information in unprecedented detail. This will enable the construction of an integrated, digital picture of our natural environment, bringing benefit to policy-makers and other users by enabling better decision-making across a range of sectors, and increasing the opportunity to gain value from natural resources and mitigate environmental challenges.

Landscape Decisions

- NERC with AHRC, BBSRC, EPSRC, ESRC, DEFRA
- funding: £10.5 million

This programme will develop a new understanding to help individuals, communities and country make the best choices regarding land use in the UK. Experts from the environment, biology, health, social, and arts and humanities will research together, supporting real world decisions with solutions for the informed use of land, and deliver improvements to our health, well-being and economy.

2. UK Research and Innovation works in partnership with universities, research organisations, businesses, charities, and government to create the best possible environment for research and innovation to flourish. We aim to maximise the contribution of each of our component parts, working individually and collectively. We work with our many partners to benefit everyone through knowledge, talent and ideas.

Operating across the whole of the UK with a combined budget of more than £6 billion, UK Research and Innovation brings together the <u>7 Research Councils</u>, <u>Innovate UK and a new organisation</u>, <u>Research England</u>.