

Press release: Plan to enable first UK carbon capture project from the mid 2020s announced at world-first summit

The UK's first carbon capture, usage and storage project could be operational from the mid 2020s under a government action plan unveiled today.

Press release: New era of tech-driven legal and financial services to boost productivity and improve customer experience

New research projects will investigate how businesses can make best use of artificial intelligence in insurance and law.

Press release: Plan to enable first UK carbon capture project from the mid 2020s announced at world-first summit

- UK hosts first-ever summit of 50 international leaders to accelerate global rollout of innovative technology to reduce emissions and tackle climate change
- country's first carbon capture, usage and storage (CCUS) project could be operational from the mid 2020s under government action plan unveiled today, as part of modern Industrial Strategy
- work to begin early next year to identify opportunities to transform UK's fossil fuel infrastructure for use in carbon capture and storage, diversifying the oil and gas sector

The UK's first carbon capture usage and storage (CCUS) project could be up and running from the mid-2020s under government plans unveiled today (28 November) at a world-first summit in Edinburgh.

More than 50 international leaders, CEOs of major energy companies, manufacturing businesses and finance firms gathered today to discuss the next crucial steps for making cutting-edge carbon capture technology a reality. Energy-intensive industries currently produce approximately 24% of global emissions. This potentially vital technology captures carbon from power stations and carbon heavy industries such as cement, chemicals, steel, and oil refining. Then before it even enters the air, it either uses it for industrial purposes like manufacturing concrete or stores it safely underground, reducing pollution and helping to tackle climate change.

Ahead of COP24 next week and almost a year on from the launch of our modern [Industrial Strategy](#), the government will show the UK's continued leadership on tackling climate change by setting out [an action plan to enable the development of the UK's first CCUS project](#), commissioning from the mid 2020s. The overarching ambition is to roll out the technology at scale in the 2030s, subject to costs coming down sufficiently.

The plan commits the UK to:

- next year set out how to enable the UK's first CCUS facility
- invest £20 million in supporting construction of CCUS technologies at industrial sites across the UK, as part of £45 million commitment to innovation
- invest up to £315 million in decarbonising industry, including the potential to use CCUS
- begin work with the Oil and Gas Authority, industry and the Crown Estate and Crown Estate Scotland to identify existing oil and gas infrastructure which could be transformed for CCUS projects

Speaking ahead of the summit, jointly hosted by the UK with the International Energy Agency (IEA), Energy and Clean Growth Minister Claire Perry said:

Today at this seminal summit, the UK is setting a world-leading ambition for developing and deploying carbon capture and storage technology to cut emissions.

It shows how determined all countries are to unlock the potential of this game-changing technology that representatives from across the globe are gathered here today in Edinburgh. The time is now to seize this challenge to tackle climate change while kick starting an entirely new industry.

Dr Fatih Birol, Executive Director, International Energy Agency said:

Without CCUS as part of the solution, reaching our international climate goals is practically impossible. CCUS can also enhance energy security and boost economic prosperity. Yet up until now, progress has been muted and if this continues the challenges we face in the energy sector will become infinitely greater. That is why the IEA is bringing together industry, governments and our own

technology network – as well as the investment community – to make CCUS a reality.

The UK government today will also announce investment of £175,000 in Project Acorn in St Fergus, Scotland, to develop ways of transporting carbon emissions from where they are captured to storage. This will be matched by the Scottish government, and the European Union Commission will also provide funding. This comes as other CCUS projects are also being developed with OGCI Climate Investments announcing today its intention to open the first commercial end to end CCUS project in Teesside. The project will use natural gas to generate power, with CO₂ then captured and transported by pipeline for storage under the seabed.

Earlier this week, Drax Power Station, in North Yorkshire, announced work would start on the commissioning of a Bioenergy Carbon Capture and Storage pilot plant using technology developed by Leeds University spin-out company C-Capture, which was supported by £2 million of government funding. If the pilot project is successful, Drax could become the world's first negative emissions power station – meaning the electricity it produces would help reduce the amount of carbon accumulating in the atmosphere.

This pivotal summit follows last month's publication of the Intergovernmental Panel on Climate Change's (IPCC) stark report which called for urgent global action to tackle climate change and highlighted that past carbon emissions have already caused 1°C of warming. The IPCC made it clear that globally we are currently not on track to meet the Paris Agreement's temperature goal and we must increase our ambition to drastically reduce global greenhouse gas emissions to reach a net level of zero around the middle of the century.

The UK is already a world-leader in carbon capture, and to date has invested £1.3 billion to progress industrial carbon capture in Teesside. As well as boosting local supply chains and creating good jobs, carbon capture will also explore what can be done with existing oil and gas infrastructure. The UK is also the largest donor of Official Development Assistance to carbon capture globally, providing £70 million since 2012 to support carbon capture activities in emerging and developing countries including Indonesia, Mexico and South Africa, supporting a truly global move towards this new technology.

1. The summit in Edinburgh follows the announcement in May that the UK is to lead an international challenge with Saudi Arabia and Mexico to remove carbon from emissions and comes ahead of crunch talks to be held at the December UN Conference of Parties (COP) Climate Change event in Poland. It is one of 7 Mission Innovation challenges announced in 2015 at COP21.
2. The UK's modern [Industrial Strategy](#) is a long-term plan to build a Britain fit for the future through a stronger, fairer economy. Through this we will help businesses to create better, higher-paying jobs – setting a path for Britain to lead in the high-tech, highly-skilled industries of the future.
3. Drax is also looking at a number of ways in which the CO₂ captured during its 6-month BECCS pilot could be used within other processes, such as for

carbonating drinks and creating synthetic fuels.

4. CCUS documents published today:

[Press release: New era of tech-driven legal and financial services to boost productivity and improve customer experience](#)

- Law and insurance services set to be modernised by artificial intelligence (AI) thanks to new research delivered through the modern Industrial Strategy
- AI will revolutionise customer experiences, speeding up processing times and helping customers get answers to queries more quickly
- comes a year on from the launch of the modern Industrial Strategy, the government's plan to boost jobs and drive innovation in every sector and corner of the UK

Using AI to reduce processing times and save money for consumers, improve customer engagement, and consider how people interact with technology, is the focus of new research commissioned by Business Secretary Greg Clark.

3 new research projects will investigate how businesses can make best use of AI in insurance and law as well as analysing consumer attitudes to AI. The projects backed by £3 million through the [Industrial Strategy Challenge Fund](#) will focus on:

- Technology Driven Change and Next Generation Insurance Value Chains – how AI can be applied to processes such as underwriting and claims processing, speeding up the process for customers. Working with business, the project will consider how AI technologies can transform delivery of insurance services and save consumers money
- Unlocking the Potential of AI for Law – how AI can be put to use in legal services and how to unlock its potential for good. The project will bring academics, lawyers, businesses and programmers together to develop the skills, training and codes of practice to deliver these benefits. The team will gather best practices across the world, outline data challenges, identify where and how AI can legitimately resolve disputes
- Innovating Next Generation Services through Collaborative Design – to consider future uncertainties about the roll-out of new AI technologies in accounting and legal services by using insight, existing studies, developments in AI and service design, as well as analysing the

potential barriers to AI-based business model innovation. The project will work with mid-size firms across law and accountancy

Business Secretary Greg Clark said:

The UK is the home of AI – from Alan Turing’s pioneering work to today’s growing use of AI throughout the economy. Artificial Intelligence is changing how we work, live and play.

Through our modern Industrial Strategy, we want to build on our history of innovation to develop and deploy AI to create new opportunities and improve services across the whole economy.

The Next-Generation Services Challenge seeks to take on the biggest industrial and societal challenges of our time. Services account for almost 80% of the UK economy, with financial and professional services alone employing around 2.2 million people and valued at £190 billion.

Today’s announcement builds on the government’s commitment to help drive forward innovation in the public sector and help it seize the opportunities of AI. The government recently announced £10 million of funding through the Regulator’s Pioneer Fund to support bodies to create a regulatory environment that gives businesses the confidence to use emerging technologies.

Stephen Browning, Challenge Director of Next Generation Services, UKRI, said:

AI and data driven technologies have the potential to transform our services sectors but in order for the UK to derive the biggest benefit, we will need to address not only the technical challenges that application of these technologies requires but also the human behavioural challenges that must be addressed. That is why I’m particularly excited by these 3 projects that bring multi-disciplinary research to bear, examining business model, behavioural and technical challenges with the use of AI and data and together addressing accountancy, insurance and legal services.

Lord Chancellor, David Gauke said:

Ensuring our world-leading legal services industry remains the primary choice for international businesses as we prepare to leave the European Union is a priority for this government.

Widespread use of Artificial Intelligence is set to transform the £24 billion sector, allowing innovative companies to accurately review contracts at high speed and develop ground-breaking tools that could be used to help predict case outcomes.

This new funding will foster innovation and increase understanding

of AI to strengthen the UK's reputation as a global centre for legal services and emerging technologies.

These projects will run for up to 3 years and commence in December 2018.

The AI and Data Grand Challenge

Artificial intelligence and the data-driven economy is one of the four Grand Challenges within the modern Industrial Strategy. Using AI across a variety of industries, including law and financial services, will put the UK at the forefront of the AI and data revolution.

The Modern Industrial Strategy

Our modern [Industrial Strategy](#), published last year, set out how the whole of the UK can build on these 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 in London and the South East but 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

- we now have the fastest growing infrastructure investment across the G7, providing £31 billion of additional capital spending to areas critical to improving productivity
- we have 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
- we recently launched the Patient Capital Fund, which will invest £2.5 billion in our most innovative companies
- we will shortly publish the Business Productivity Review setting out ways to support improving productivity in many of our smaller businesses

Notes to Editors

The 3 projects announced are as follows:

- Professor A Milne, Loughborough University – Technology Driven Change and Next Generation Insurance Value Chains (TECHNGI)
- Professor J Armour, University of Oxford – Unlocking the Potential of AI for English Law
- Professor T Vorley, University of Sheffield – Innovating Next Generation Services through Collaborative Design

Professor Milne's research will explore the implications for the insurance industry of this wave of new digital technologies, with the support of many of the UK's leading insurance companies. They will identify and map the range of opportunities for AI based innovation in business processes and business models, across underwriting and risk analytics, claims processing and customer engagement. They will examine, through engagement with industry on business opportunities and challenges and through a range of case studies, the barriers to adoption and the enablers of change.

Professor Armour's research will look into the use of AI in the legal system. His research seeks to identify how constraints on the implementation of AI in legal services can be relaxed to unlock its potential for good. As well as governing economic order, the legal system is more fundamentally a structure for social order. As a result the stakes for AI's implementation in UK legal services are high. If mishandled, it could threaten both economic success and governance more generally.

Professor Vorley's research will maintain a focus on people's experiences of new products and services within firms which are particularly sensitive to technological change. Rather than focusing solely on the technology itself, the research will generate insights into the role of people's usage for innovation and the integration of AI technologies. The research will look to undertake exploratory prototyping of solutions designed in collaboration with firms to enable a rapid generation and assessment of potential future applications of AI across the business model. This is critical in the objective of the project to broaden participation of those within firms in exploring challenges and strategies within professional service firms.

These projects form part of the Next Generation Services challenge and its objective is to maintain the UK's leadership in global high-value services

including new technologies based on Artificial Intelligence (AI) and the data economy, 1 of 4 'Grand Challenge' areas identified in the government's Industrial Strategy White Paper.

[UK Research and Innovation](#) is a new body which 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 7 Research Councils, Innovate UK and a new organisation, Research England.

[**Press release: PM promises deal which works for Scotland**](#)

Prime Minister Theresa May travels to Scotland to meet employers and workers to discuss the agreement reached in Brussels.