Intergalactic investment: government boosts space tech funding to cut carbon emissions and improve energy security

- £3 million for projects to collect solar power with satellites in the Earth's orbit
- government-backed high power weather sensor, four times more powerful than those on existing satellites, to enter orbit for the first time
- David Morris MP to be new National Space Champion, supporting the industry on behalf of government

Funding for pioneering new space technologies will help to cut carbon emissions, improve energy security and enhance the UK's reputation as a science superpower, the Business and Energy Secretary Kwasi Kwarteng announced today.

£3 million of grant funding will be made available for space-based solar power (SBSP) projects that collect the Sun's energy using solar panels orbiting the Earth and can deliver clean energy, day and night, unaffected by the weather.

The technology has the potential to boost energy security by providing reliable, affordable alternative to expensive and volatile fossil fuels, while reducing the UK's contributions to climate change.

Grant funding will also be made available for cutting-edge weather monitoring sensors to aid more accurate weather forecasts. The sensors will be put into orbit for the first time, thanks to a partnership with data and analytics company Spire Global.

The Hyperspectral Microwave Sounder (HYMS), developed by the Science and Technology Facilities Council's RAL Space, will help meteorological agencies and businesses around the world involved with planning, shipping and flood warnings. It is 4 times more powerful than the sensors used on existing satellites.

In a further demonstration of the government's commitment to the sector, Morecambe and Lunesdale MP David Morris will serve as the first ever National Space Champion. He will work closely with industry to ensure the UK's space sector continues to grow, attract investment, and develop innovative products. Morris is a longstanding advocate for the UK space industry and chairs the All-Party Parliamentary Group for Space.

Business and Energy Secretary Kwasi Kwarteng said:

> Space-based solar power could provide an affordable, clean and reliable source of energy for the whole world to benefit from, helping the move away from expensive fossil fuels. Today's investment is an exciting example of how we can go even further in our ambitions to make the UK a science superpower.
>
> I am also delighted that the HYMS technology, developed in Oxfordshire, will be put into service by Spire Global to help improve weather forecasting.
>
> These projects are major milestones for our National Space Strategy, developing the UK's space capabilities while boosting the economy and delivering high-skill jobs.

National Space Champion David Morris MP said:

> It is a privilege to be asked to be the first UK National Space Champion and the appointment shows the government's commitment to the sector and its commitment to its growth.
>
> The UK space sector is fast becoming a world leader and I look forward to being a champion for the industry within government to ensure we are able to spearhead the industry to even further growth.

An independent report found significant commercial potential in developing SBSP's underlying technologies as products in their own right – particularly with regards to wireless power transmission and solar power.

Similarly, the HYMS occupies a footprint fifty times smaller than current technology, which makes it possible to launch dozens of HYMS-equipped satellites, together forming a constellation that can track fast moving extreme weather events such as hurricanes.

Dr Paul Bate, Chief Executive of the UK Space Agency, said:

> Satellite technology is helping us solve some of the most significant challenges we face. We're working with the space sector to drive innovation, catalyse investment and bring tangible benefits to people and businesses across the UK.
>
> As these 2 new projects show, space is not only vital in helping us monitor the weather and our environment, it can also provide new solutions to our future energy needs and support the global fight against climate change.
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> I would like also like to welcome the appointment of a National Space Champion and I look forward to working with David Morris to support our growing sector.

The UK space sector employs around 47,000 people directly around the UK and supports around 190,000 jobs in the supply chain. By building on the commitments of the National Space Strategy to grow the economy and lead pioneering scientific discovery, these 2 projects will help to protect and grow these high-quality jobs across the country for generations to come.

1. HYMS was developed by RAL Space, the UK's national space laboratory, at Harwell Space Cluster in Oxfordshire, with £600,000 funding from the UK Space Agency (UKSA) National Space Innovation Programme.

2. The Science and Technology Facilities Council (STFC) RAL Space will work with data and analytics company Spire Global to prepare HYMS for deployment in space, with the long-term objective of providing a full constellation of satellites.

3. Work will be carried out both in Oxfordshire, at RAL Space, and in Glasgow where Spire Global has its UK headquarters and satellite manufacturing facility. The space industry supported 8,440 jobs in Scotland in 2020, almost a fifth of the total 46,995 jobs in the space industry across the whole of the UK. The UK space sector generates an income of £16.5 billion a year. Scotland will also host the UK's first vertical small satellite launches next year, from the SaxaVord and Sutherland spaceports.

4. STFC is part of UK Research Innovation.

5. More information on the Space Based Solar Power concept can be found in the report Space based solar power: de-risking the pathway to net zero, commissioned by BEIS. Funding for the SBSP Innovation Programme has been made available from the Net Zero Innovation Portfolio.

6. David Morris has been the Member of Parliament for Morecambe and Lunesdale since 2010. He has previously served as a member of the Commons Science and Technology Committee and was the government's ambassador for freelancers and the self-employed (2014-2016). He was appointed an Assistant Government Whip in July 2022, and currently chairs the All-Party Parliamentary Group for Lancashire.