**Transforming food production challenge**

This challenge supports new ways to produce food that reduces emissions and pollution, and contributes to feeding a growing world population.

The aim is to:

* produce resilient and sustainable food more efficiently
* reduce emissions and pollution
* minimise waste
* improve soil

This challenge is supporting new ways to produce food that reduce emissions and pollution, and contribute to feeding a growing world population.

We are investing up to £90 million of funding to help businesses, researchers and industry to transform food production, meet the growing demand and move towards net zero emissions by 2040.

It is predicted that 60% more food will be needed worldwide by 2050 to feed the increasing global population. To do this, we need to be able to produce resilient and sustainable food more efficiently. This will reduce emissions and pollution, minimise waste and improve soil.

Funding will be invested in:

* future food production systems
* science and technology into practice
* international opportunities
* investment ecosystems

### Future food production systems

This funding stream will stimulate the development of new high-value food production systems. To date, we have invested over £16 million in projects led by 5 innovative companies.

### Science and technology into practice

We will strengthen connections between innovative businesses, farmers and end users. The aim is to accelerate the development and adoption of precision approaches to increase agricultural productivity, while supporting the sector in achieving net zero emissions by 2040.

This funding stream have awarded over £14 million to projects.

### International opportunities

This is a programme to identify and accelerate shared international priorities and help build export opportunities for pioneering agricultural technologies and innovations with partners overseas. It currently includes 2 streams:

* in Canada, to help UK companies to access precision agriculture markets in North America
* in China, to help exploit rapidly emerging market opportunities in Asia

### Investment ecosystem

Innovate UK research shows that the UK lags internationally on late-stage investment in agri-tech. We will create new approaches to working with the investment community to explore and accelerate the commercial potential of new technologies and attract private investments into UK businesses.

To address a lack of private agri-tech investment, we have created an investor partnership programme to encourage venture capital firms to take a stake in innovative UK agri-tech businesses working to achieve net zero emissions.

The programme aims to deliver government grant and venture capital funding to small and medium-sized enterprises (SMEs) close to taking their product to the market. It is set to deliver £5 million in grant funding for late-stage projects, coupled with private investment matched by a ratio of at least 2 to 1 by the private investors.

The investor partnership programme is seeking small and medium-sized businesses aspiring to transform food production while targeting net zero by 2040, with focus areas including:

* robotics
* artificial intelligence
* novel proteins
* vertical farming
* integrated supply chains
* autonomous growing systems
* precision agriculture

### Farming innovation programme

The farming innovation programme is a partnership between the Department for Environment, Food and Rural Affairs (Defra) and UKRI to increase innovation in farming, through investment in research and development for a more efficient and productive sector.

It will support ambitious projects to transform productivity and enhance environmental sustainability in England’s agricultural and horticultural sectors, while driving the sectors towards net zero.

The programme’s aims are to:

* help farmers, growers and foresters increase productivity, sustainability and resilience
* reduce the environmental impact of agriculture and horticulture
* apply agricultural research to provide real benefits for farmers, growers and foresters
* use science to develop solutions for the practical challenges in agriculture and horticulture

For more details, visit the [farming innovation site](https://farminginnovation.ukri.org/).

It is predicted that 60% more food will be needed worldwide by 2050 to feed the increasing global population. To do this, we need to be able to produce resilient and sustainable food more efficiently. This will reduce emissions and pollution, minimise waste and improve soil, and help the sector get on a trajectory to realise net zero emissions by 2040.

Funding, support and collaborative activity will focus on 4 key areas:

* future food production systems
* science and technology into practice
* international opportunities
* investment ecosystems

From animal health to crop management, robotics to pest control, the food sector in the UK needs to innovate to meet demands on its:

* efficiency
* environmental impact
* sustainability
* economic value