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# **About this report**

Barclays' Group Policy Development team creates public policy thought leadership content on behalf of Barclays. Our work draws on the bank's expertise, data and insights, and is intended to inform the design and application of public policy solutions in response to pressing economic and societal challenges.

The intended audience for this report is public policy makers and other actors engaged in shaping public policy. The report is general in nature and provided for information/educational purposes only. It does not take into account any specific investment objectives, the financial situation or particular needs of any particular person. It is not intended for distribution, publication, or use in any jurisdiction where such distribution, publication, or use would be unlawful, nor is it aimed at any person or entity to whom it would be unlawful for them to access.

# **Executive Summary**

The UK is at a critical moment with regards to the future of farming and agriculture. There is an ongoing need to strategically consider how the sector balances the competing priorities of delivering food security, reducing greenhouse gas emissions and protecting biodiversity and nature - all whilst enhancing productivity and efficiency on the farm. In this context, well-designed and strategically adopted agriculture technology, or 'Agritech', presents a compelling opportunity to support the delivery of these various objectives. But despite its potential, there remain some significant challenges when considering scale-up and deployment of new innovative technology to support agriculture, for both farmers and Agritech developers.

This paper looks at the role of public policy in accelerating the development and deployment of Agritech, in particular as an enabler for the delivery of sustainability goals within the agriculture sector. Drawing on our client and customer relationships with farmers, as well as our support for Agritech developers, we offer a new perspective on this question by bringing together a variety of unique insights: a survey of our farming customer base; a roundtable with customers and our Farm-to-Farm participants, as well as a series of roundtables with Barclays-supported Agritech companies.

#### The following key insights emerged:

There is optimism about the future of the Agritech sector and its role in the future of farming

> Confidence in government is low, from both farmers and Agritech developers

There is a disconnect felt across the Agritech ecosystem

Skills and talent are a barrier to both development and adoption of Agritech

Upfront cost and unclear return on investment are the key barriers for farmers; with Agritech companies also facing funding challenges

> Supply chain could play a critical role but is not currently doing so

#### To address these barriers, this paper puts forward three key recommendations for government:

Deliver an overarching strategy for the agriculture transition, promoting Agritech and future-fitting regulation

#### To deliver this, government should:

- Communicate a clear vision and strategy for the future of agriculture, including support for delivering its pathway to net zero.
- Review the success of the previous 2013 Agritech strategy.<sup>1</sup>
- Provide longer term clarity and certainty on the evolution of the Environmental Land Management schemes.
- Consider how the wider food supply chain impacts practices and financial viability within the agriculture sector.
- Enhance collaboration with Agritech firms to understand unintended consequences and work together on regulatory updates.

Turbocharge the recently combined UK Agri-Tech Centres into an empowered, effective ecosystem-wide Agritech hub delivering connection across the value chain and supporting skills development

#### To deliver this, Innovate UK, Defra and the government should work with the new UK Agri-Tech Centre to:

- Build in an explicit role for farmer participation.
- Support more pilot or demo farms that allow Agritech companies to test and innovate alongside farmers.
- Link ecosystems, bringing together different voices to collaborate on Agritech design and implementation.
- Work with Skills England to develop a clear skills offer.

Ensure appropriate financial support for both Agritech development and adoption, targeting key barriers

#### To deliver this, government should:

- Ensure that the list of eligible activities under the Sustainable Farming Incentive (SFI) is appropriately updated at scheme review points to ensure it reflects relevant innovations in Agritech.
- Seek opportunity for greater showcasing of success stories of farmer adoption of Agritech.
- Consider where the National Wealth Fund and British Business Bank can deploy targeted support for Agritech development, in line with the growth mission and industrial strategy.

# Gap analysis and research question

# Introduction to Agritech

Agriculture technology, or 'Agritech', is broadly defined as the implementation of modern technology, specialised software, and hardware systems into farming processes. It is a diverse sector covering innovation such as alternative food production, precision farming tools, methane capture technologies, and carbon and nature measurement. Whilst many farmers already use elements of technology within agriculture, discussion of Agritech tends to focus on more cutting-edge modern technology to bring new innovations to the farm gate.

The UK's Agritech sector is estimated to be worth over £13bn. But whilst farmers are open to and see the value of innovation to enable new farming methods, particularly when it comes to ways to improve the sustainability of their farms, many solutions are under-developed and there are barriers to adoption. These include cost, education or skills gaps, lack of intra-industry sharing of best practice, lack of technology maturity, and uncertain revenue impact.² Research by Barclays estimated that less than half of UK farmers planned to invest in new, emerging technologies to ensure business success.³





#### Use case for sustainability

The agriculture industry is among the most carbonintensive sectors in the UK, contributing 11% of the UK's total Greenhouse Gas (GHG) emissions in 2021.<sup>4</sup>

In recognition of this, the UK's post-Brexit agriculture subsidy schemes skew payments heavily to farmers taking actions to support sustainability.

With financial viability remaining a top priority for farmers, delivering on sustainability objectives whilst also maintaining returns and improving productivity and efficiencies will be critical.

The Department for Environment, Food & Rural Affairs' (Defra) 2023 Farm Practices Survey found that the main

motivations for taking actions to reduce GHG were that it was considered good business practice (83%), ranking higher than action being driven through concern for the environment (73%).<sup>5</sup>

Finding solutions that can deliver sustainability objectives as well as supporting actions to achieve financial viability will therefore be essential.

As farmers consider the future of their farms and their priorities for investment, Agritech has the potential to be a powerful tool for enhancing productivity and efficiency whilst delivering emissions reductions and supporting nature and biodiversity preservation.

<sup>&</sup>lt;sup>2</sup> UK Agri-Tech Centre. <u>Future of Agritech Report</u>. April 2024.

<sup>&</sup>lt;sup>3</sup> Barclays. <u>Insight into Al in UK Agritech</u>. January 2021.

<sup>&</sup>lt;sup>4</sup> Department for Environment, Food & Rural Affairs. <u>Agri-climate report 2023</u>. January 2024

Department for Environment, Food & Rural Affairs. <u>Agri-climate report 2023</u>. January 2024

# Key challenges facing Agritech development and deployment

Despite its potential, there remain some significant challenges to scaling and deploying new innovative tech in agriculture. These exist both in the development of Agritech by entrepreneurs and innovators, as well as its adoption by farmers and end-users.

A recent report from the UK Agri-Tech Centre found that businesses are discouraged from adopting existing Agritech solutions by the cost of purchasing the technology (38%), the cost of implementing it (33%), insufficient knowledge and support (30%), and the lack of skills and training (29%)6 – a finding echoed by a recent Barclays survey of our agriculture client base, presented later in this report. Funding gaps also hamper the uptake by farming and agriculture businesses. Technology adoption can involve high upfront costs and ongoing maintenance, with uncertainties around understanding or modelling the potential return on investment leading to farmer uncertainty around the real or perceived return on investment. Lastly, in some cases, the development of new technology can be based on theory rather than consulting the intended users, creating a disconnect between research and farmers' needs.

29%
OF BUSINESSES AVOID AGRITECH SOLUTIONS DUE TO 'LACK OF SKILLS AND TRAINING'



Declining global investment in Agritech startups

Many Agritech companies face a challenging financing environment. The decade up to 2021 saw a large growth in capital invested into the Agritech sector, with some estimates indicating that approximately 20 times more capital was invested in new Agritech ventures in 2021 than in 2012.<sup>7</sup> But there has been a sharp decline in investment into Agritech since 2021. Venture fund AgFunder reported that in 2023, Agritech startups raised \$15.6bn globally, down 49.2% from the \$30.5bn raised in 2022.<sup>8</sup>

# UK policy approach to agriculture and Agritech

The last few years has seen the evolution of the post-Brexit farming support and subsidy schemes across the UK. New schemes to provide government support to farmers have been designed, and roll-out is ongoing. The new farming schemes have sustainability, and nature in particular, as key components of requirements for government funds.

Whilst the Labour government have yet to set out detailed plans for the future of the agriculture sector – with a 25-year

agriculture roadmap and a national food plan in development – the Defra Secretary of State recently highlighted the important role that the government sees Agritech playing the future of the sector. 9,10,11 This includes a role in delivering on both sustainability and profitability goals. The recently published Land Use Consultation highlighted the role that new technologies can play, and the benefits that sharing best practice and knowledge transfer can have in supporting farmers and land managers. 12



<sup>&</sup>lt;sup>6</sup> UK Agri-Tech Centre. <u>Future of Agritech Report</u>. April 2024.

<sup>&</sup>lt;sup>7</sup>McKinsey. <u>How agtech start-ups can survive a capital drought</u>. November 2022.

<sup>&</sup>lt;sup>8</sup> AgFunder. <u>Global AgriFoodTech: Investment Report 2024</u>. March 2024.

<sup>&</sup>lt;sup>9</sup> Department for Environment, Food & Rural Affairs. <u>Steve Reed speech at the 2024 CLA Conference</u>. November 2024.

<sup>&</sup>lt;sup>10</sup> Department of Health & Social Care. <u>Government response to the House of Lords Food, Diet and Obesity Committee's report.</u> 'Recipe for health: a plan to fix our broken food system'. January 2025.

<sup>&</sup>lt;sup>11</sup> Department for Environment, Food & Rural Affairs. <u>Steve Reed speech at the 2025 Oxford Farming Conference</u>. January 2025.

<sup>&</sup>lt;sup>12</sup> Department for Environment, Food & Rural Affairs. <u>Land Use Consultation</u>. January 2025.

Overview of government schemes to deliver environmental, climate and animal welfare outcomes, as well as to improve farm prosperity

### Farming and Countryside Programme

#### **Environmental, Climate and Animal Welfare Outcomes**

#### **Environmental Land Management**

Landscape Recovery Countryside Stewardship Sustainable Farming Incentive Other schemes include Farming in Protected Landscapes, Nature for Climate Fund, and Livestock Information Transformation Programme.

#### **Improving Farm Prosperity**

Farming Investment Fund

Farming Innovation Programme Other schemes include Farming Resilience Fund, and the Rural England Development Programme.

- o The government's **Environment Land Management** (ELMs) schemes are the central mechanism by which the government provides financial support for farmers. Within this, the **Sustainable Farming Incentive** (SFI) rewards and supports sustainable food production whilst protecting and enhancing nature. Actions related to Agritech adoption that are eligible for SFI payments include adoption of mechanical robot weeding and remote sensor guided herbicide spraying.<sup>14</sup>
- o The **Farming Investment Fund**, including the Farming Equipment and Technology Fund, has awarded 11,000 grants worth over £120m to farmers, growers and foresters to invest in technology, equipment and infrastructure. <sup>15</sup> This includes support for technology to reduce GHG emissions from agriculture.
- o The Farming Innovation Programme is a £270m programme that supports farmers with funding to make investment in technology. In 2023-2024, it launched eight competitions, valued at £50.4m.16 There are also opportunities for Agritech developers within the Programmes, such as the 'Farming Innovation Investor Partnership' competition. This saw Defra partner with Innovate UK, pooling Defra capital as well as equity funding from private investors to make £5m available for projects in late-stage R&D seeking late seed or Series A stage funding.17 In addition, Defra announced in January 2025 that the latest round of the ADOPT fund, which funds farmer-led trials to bridge the gap between new tech and their real-world application, will launch in Spring 2025.18

Outside of the Farm and Countryside Programme, there are also a range of grants and competitions available for Agritech activities through bodies such as Innovate UK and the wider UK Research and Innovation (UKRI) organisation.

In addition, there have been specific strides in evolving the legislative and regulatory framework to support the development of Agritech solutions. This includes recent progress with the Precision Breeding Act, with the government committing to bring in the relevant secondary legislation in Spring 2025 that will enable crop gene editing technology that can deliver crops resilient to climate change, pests and diseases, as well as improving nutrition. <sup>19,20</sup>



 $<sup>^{13}\,</sup>Information\,pulled\,from:\,Department\,for\,Environment,\,Food\,\&\,Rural\,Affairs.\,\underline{Farming\,and\,Countryside\,Programme\,annual\,report\,2023\,to\,2024}.\,September\,2024.$ 

<sup>&</sup>lt;sup>14</sup> Gov.UK. Find funding for land or farmers. Accessed December 2024.

 $<sup>^{15}\,</sup> Department\, for\, Environment, Food\, \&\, Rural\, Affairs.\, \underline{Agriculture\, Transition\, Plan\, update:\, January\, 2024}.\, March\, 2024, March\, 2024$ 

<sup>&</sup>lt;sup>16</sup> Department for Environment, Food & Rural Affairs. <u>Farming and Countryside Programme annual report 2023 to 2024</u>. September 2024.

<sup>&</sup>lt;sup>17</sup> Defra Farming Blog. <u>Funding available for high growth agri-tech businesses</u>. July 2023.

<sup>&</sup>lt;sup>18</sup> Defra. <u>Steve Reed speech at the 2025 Oxford Farming Conference</u>. January 2025.

<sup>19</sup> Department for Environment, Food & Rural Affairs. New legislation to support precision breeding and boost Britain's food security. September 2024.

<sup>&</sup>lt;sup>20</sup> Defra. <u>Steve Reed speech at the 2025 Oxford Farming Conference</u>. January 2025.

In previous governments, Agritech had been a specific focus. In 2013, the coalition government developed a UK Strategy for Agriculture Technologies and set up an Agri-Tech Leadership Council, with a vision for the UK to become "a world leader in agricultural technology, innovation and sustainability".21 It also pledged £160m to accelerate innovation by UK food and farming businesses.<sup>22</sup> In 2015, Centres for Agriculture Innovation were created as a collaborative model between the Agritech sector and government, to support agriculture innovation, create commercial opportunities, encourage inward investment, and improve farming practice.23 In 2023, three out of four centres announced a merger into a single entity, with an offer to submit a proposal to establish an Agritech 'Catapult' - one of a number of centres of technology and innovation that focus on supporting capacity in innovative sectors of UK strength.24

In the devolved administrations, there are different approaches to farming subsidy and support. In addition to individual approaches to replacing the EU's CAP, specific Agritech initiatives include the Welsh Government's Agritech action plan that aimed to accelerate Welsh Agritech capabilities; drive on-farm adoptions; deliver environmental benefits; and support education and skill development to exploit Agritech to its fullest.<sup>25</sup> Agritech is also one of the priority clusters in Northern Ireland Government's 10x Economy vision, published in 2021.<sup>26</sup>

# Why now?

The UK is at a critical moment with regards to the future of agriculture policy and strategy. The government is still evolving its approach to agriculture support and, in addition to the live consultation on Land Use, is expected to publish a 25-year agriculture roadmap and a national food strategy in 2025. There is an ongoing need to strategically consider the future role of farming and agriculture as the sector balances the competing priorities of delivering food security, reducing greenhouse gas emissions and protecting biodiversity and nature. Well-designed and strategically adopted Agritech presents a compelling opportunity to support the delivery of these various objectives alongside supporting farmers to achieve increased productivity on the farm and deliver financial stability. This paper will therefore look at the role of public policy in accelerating the development and deployment of Agritech, in particular as an enabler for the delivery of sustainability and productivity goals within the agriculture sector.

The UK is at a critical moment with regards to the future of agriculture policy and strategy."

# Barclays is a key partner for agriculture businesses, and a strong supporter of Agritech companies

Barclays is one of the largest lenders and bankers to agricultural businesses in the UK, and the UK's first agricultural bank, with a history of over 280 years. We also support innovative Agritech companies as they scale and grow. Barclays' support in this space includes:

**Support for farmers**, which includes offering green loans to farmers to help fund the purchase of green assets, supporting the transition to renewable energy sources and the decarbonisation of agricultural machinery; and £250m dedicated to support farmers make their businesses carbon net zero through Agritech solutions. In 2024, Barclays launched a first of its kind collaboration with the Environment Bank to help England-based farmers understand opportunities in the Biodiversity Net Gain market. In addition, we support peer-to-peer learning through our Farm-to-Farm events for farmers in similar geographic areas to cultivate innovative sustainable farming practices. Over 100 farming clients attended Farm-to-Farm events in 2023.

Support for Agritech companies, which includes 300+ Agritech companies supported via our Eagle Labs, including through our Eagle Lab Farm at University of Lincoln. Our Barclays Climate Ventures (formerly Sustainable Impact Capital) portfolio supports a range of Agritech firms; and our Unreasonable Impact programme supports growth-stage entrepreneurs seeking to address pressing social and environmental challenges.

<sup>&</sup>lt;sup>21</sup> HM Government. <u>A UK Strategy for Agriculture Technologies</u>. July 2013.

 $<sup>^{\</sup>rm 22}$  HM Government. <u>A UK Strategy for Agriculture Technologies</u>. July 2013.

 $<sup>^{\</sup>rm 23}$  HM Government. Centres for Agriculture Innovation. April 2016.

<sup>&</sup>lt;sup>24</sup> UK Research and Innovation. <u>Merger of Agri-Tech Centres paves way for future ambitions</u>. September 2023.

<sup>&</sup>lt;sup>25</sup> Welsh government. <u>An Agri-Tech Action Plan for Wales</u>. November 2023.

<sup>&</sup>lt;sup>26</sup> Department for the Economy. <u>A 10x economy: Northern Ireland's decade of innovation</u>. May 2021.

# Methodology

Barclays set out to explore this issue by drawing on a variety of unique insights from both the perspective of Agritech developers and farmer end-users of Agritech:

# All-Agriculture **L** Survey

Barclays' 2024 All-Agriculture **Survey**, circulated to our farming customer base. This surveyed views and opinions on the future of farming, the transition to net zero, and the use of Agritech. The survey received over 200 responses and was in field between October and November 2024.

# 2 Client farmer roundtable

Roundtable discussion with Barclays' clients and Farm-to-Farm participants in November 2024, to discuss Agritech usage and adoption challenges and opportunities from the farming perspective. Farm-to-Farm is a Barclays initiative that facilitates events for farmers in similar geographic areas to cultivate innovative sustainable farming practices.

# **3** Agritech company roundtables

A series of **roundtables hosted** by Eagle Labs with Barclayssupported Agritech companies in December 2024, to gain insight into the challenges faced by Agritech companies on their growth journey, their role in sustainability and decarbonisation goals, and the opportunities for public policy to support. This included firms involved in farm robotics, bioenergy and biomaterials, and waste conversion, amongst others.



# Results

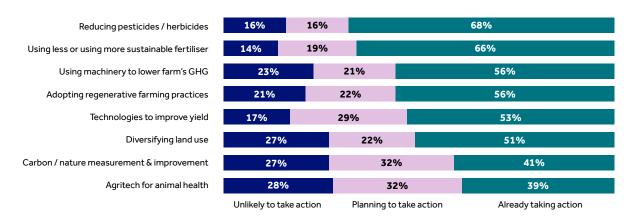
Across the insights gathered, several key themes emerged. Both farmers and Agritech companies expressed optimism about the future of the Agritech sector, and the opportunity it could play in the future of farming. But there was a disconnect felt between players in the Agritech ecosystem, and confidence in government was low from both farmers and Agritech developers. Upfront costs and unclear return on investment were the key barriers for farmers, with Agritech companies also facing funding challenges. Skills and talent were seen as a barrier to both adoption and development, and whilst the supply chain was seen to have the potential to play a critical role, it was not felt to currently be doing so.

40%
OF FARMERS DON'T
HAVE A PLAN FOR
REDUCING GREENHOUSE
GAS EMISSIONS

# 1 Insight from our All-Agriculture Survey

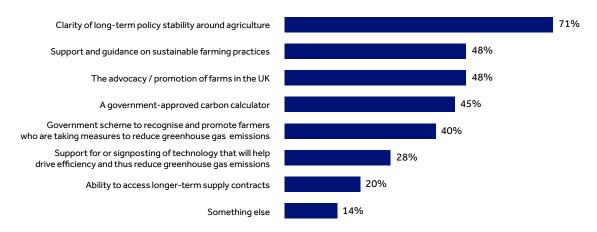
- Climate change is visible on the farm. Seven in 10 farmers have witnessed the effects of climate change, with greater variability in weather patterns, increased rainfall, and changes in productivity/quality of crop being the top three effects witnessed.
- Lack of clarity on government support is a concern for farmers. The main obstacles cited by surveyed farmers to progressing sustainability goals in both the short-term (next 12 months) and long-term (3-5 years) was a lack of clarity around government policies that will impact their farm; followed by insufficient financial support, subsidies or incentives from government; and the cost of required machinery/equipment/inputs.
- There's no net zero without nature. Over 8 in 10 of our surveyed farmers feel improving nature is important, compared to only around 6 in 10 who feel that reducing GHG emissions is important. The majority have a plan in place for improving nature and restoring soil health, but 4 in 10 don't have (and don't intend to have) a plan for reducing greenhouse gas emissions.
- Farmers are taking, or planning to take, a range of actions to decarbonise or implement sustainable farming practices. These include adopting Agritech solutions. The most common responses included using less, or using more sustainable, fertiliser (85% already taking or planning to take action), reducing pesticides/herbicides (84%), deploying technologies to improve yield (82%), adopting regenerative farming practices (78%), and using machinery to lower a farm's GHG (77%).

# Actions farmers are taking to decarbonise and/or implement sustainable farming practices in the next two years



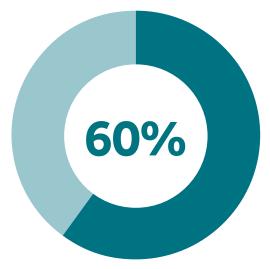
• But farmers feel that there is more that government could be doing to support them as they consider and adopt sustainable farming practices. This includes delivering clarity of long-term policy stability around agriculture (71%); providing support and guidance on sustainable farming practices (48%); the advocacy and promotion of farms in the UK (48%); as well as a government scheme to recognise and promote farmers who are taking measures to reduce the GHG emissions on their farm (40%). Responses also highlighted the potential value of a government approved carbon calculator (45%) to help measure and report emissions.

# Changes farmers would like to see in government policy to support farms to move towards more sustainable farming



OF FARMERS WANT GREATER CLARITY ABOUT LONG-TERM POLICY STABILITY AROUND AGRICULTURE



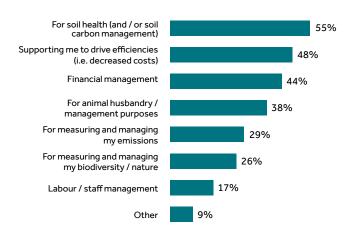


On Agritech specifically, 60% of surveyed farmers said they are looking to embrace new technologies or farming techniques.

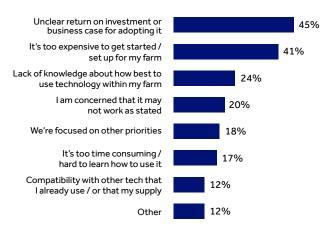
- There are a range of use cases that farmers are looking at for technology on the farm (see 'A' below). Most notably this includes for soil health and/or soil carbon management (55%) and supporting delivery of efficiencies (48%).
   A longer tail of use cases also attracted a strong minority of responses, including for measuring and managing animal husbandry, emissions, biodiversity and nature.
- Barriers to adoption persist (see 'B' below). Financial drivers were the key barriers, with almost half (45%) of farmers citing the unclear return on investment or business case for adopting technology as a key barrier. The upfront expense to get started and set up the technology for the farm was also a key issue (41%). After financial barriers, the most commonly cited challenges were lack of knowledge about how best to use technology within the farm, and concerns that the technology may not work as stated.

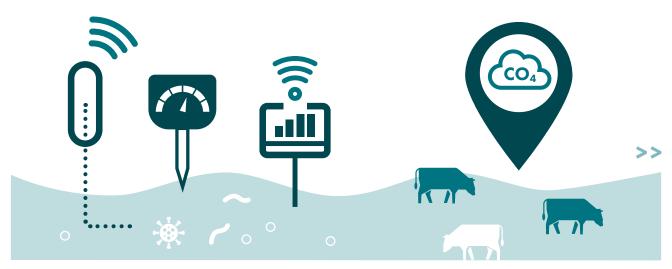
#### Role of Agritech and barriers to adoption

# What role, if any, do you see technology playing within your farm in the next 3-5 years?



# B For you personally, what, if anything, are the barriers to your farm adopting new technologies?





# 2 Insight from our client farmer roundtable

In November 2024, we hosted a roundtable with farming clients from our Farm-to-Farm network, to discuss the results of Barclays' All-Agriculture survey and general approaches to sustainability. The key discussion themes were as follows:

- · Financial viability is the key driver for decision making on **the farm**, and farmers we spoke to were heavily influenced by the bottom line. Whilst the unpredictable nature of farming has always created forecasting challenges, climate change was making budgeting more difficult (one participant discussed the changing climate being a real struggle if you have no "wiggle room" in your business). Some participants highlighted the need for a mindset shift away from yield and to overall margin, considering how to generate return on each bit of land and being willing to try new things. Here, Agritech was seen to have the potential to play a role in increasing the output price of produce and adding value to the farm. Participants who had adopted more sustainable or regenerative practices highlighted the returns they were seeing and the positive impact that it had led to on the farm.
- While there was the perception that there had been large overall increases in finance for Agritech, this investment wasn't being felt on the farm. Participants flagged that it felt like Agritech solutions were being created for the supply chain, rather than the farmer, as the target end-user with implications for where Agritech financing had been allocated ("how much money has been spent on Agritech in the last ten years and how much has actually been used on farms is staggering"). Some farmers felt that Agritech solutions that they came across had been mediocre. But there was seen to be a chance for more "blue sky thinking", and strong opportunities for Agritech solutions to address key costs on the farm notably fertiliser.

- Delivering at scale can help address concerns around return on investment and support innovation, but requires bold thinking and investment support.

  Participants flagged that the return on investment with some technology is much better at scale, with small pilots being expensive, and the need for innovation to scale quickly to be viable. However, delivering at scale was a challenge both for investors and companies. Farmers shared experiences of being approached by companies seeking small ("postage stamp") portions of land to run schemes, which not all felt was viable.
- Investors not in tune with agriculture needs, the expected returns and the longer time horizons. There was a disconnect felt between farmers and the investor community, whose support is critical to overcoming financing challenges. Agriculture has long lead times in terms of implementation and return, which contrasted with the short investment cycles and demand for quick results needed by investors. More generally, farmers reflected that they tended to work on a 1-2% return on capital, far lower than most investors would be seeking, and that any material gains can be wiped out quickly by the unpredictable nature of the farming business model, such as bad weather.

Agritech was seen to have the potential to play a role in increasing the output price of produce and adding value to the farm."



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• Supply chain could play a key role but drivers not currently there. Whilst some farmers noted the role that supply chain companies could play in enabling change on the farm, many felt that the pressures or incentives were not currently present at levels needed to drive change. Where sustainable or regenerative programmes or products were being requested or delivered, farmers expressed the need for that to be reflected in the ability to command a higher price for their product, so they could differentiate in return for the adoption of these practices. But some flagged that even where there was a premium on offer, the paperwork required to achieve that certification meant it wasn't always worth doing.





## Summary of farmer insights from survey and roundtable

Financial viability remains a key driver for any actions, including sustainability. Whilst 7 in 10 are witnessing the effects of climate change, only around 6 in 10 feel that reducing GHG emissions is important, and 4 in 10 don't have (and don't intend to have) a plan for improving greenhouse gas emissions. In contrast, over 8 in 10 feel improving nature is important, and the majority have a plan in place for improving nature and restoring soil health. The incentives for nature actions within the Sustainable Farming Initiative may be playing a part in driving this.

60% of respondents are looking to **embrace new technologies or farming techniques**. When considering the role of technology on the farm, the majority of respondents see it playing a role in soil health, with other top responses including support to drive efficiencies, financial management, and for animal husbandry/management purposes.

The biggest barriers to farms in adopting new technology include an unclear return on investment or business case for adopting; the expense to get started and set up; as well as lack of knowledge about how best to use technology within the farm. Scale can help address concerns around return on investment but requires bold thinking and investment support.

Increases in Agritech investment aren't being felt on the farm, with a sense that investors are not in tune with agriculture needs, expected returns and longer time horizons.

# Insight from our Agritech company roundtables

In December 2024, Barclays Eagle Labs held three virtual roundtables with founders and senior executives from Barclays-supported Agritech companies.

# Farmer uptake and opinion

- There was optimism in the fact that many farmers are already using Agritech in some form, with significant use of technology on the typical farm. Participants were excited about the role of new technology to foster and facilitate sustainable agriculture. Adopting technology on the farm or changing practices tended to be driven by the bottom line, with sustainability benefits even if it wasn't typically the number one motivator for adoption.
- However, Agritech companies observed caution amongst farmers and barriers to adoption, due to cost challenges, competing priorities, farmers' previous negative experiences with technology, and a lack of confidence about the suitability of the technology to their farms.

"The market is increasingly understanding how important [sustainable farming] is for farmers' bottom line."

Founder/CEO, analysis and measurement company

"There's natural caution and [farmers] want to see proof."

Non-Executive Director, robotics company

"It's a great time for us to be providing innovative solutions for growers and options for ways they can protect themselves in future."

Founder/CTO, analysis and measurement company

"Profitability is sustainability and sustainability is profitability."

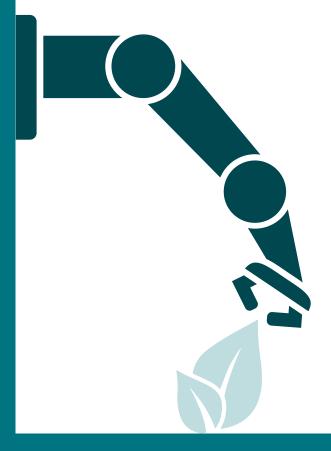
Founder/CEO, robotics company

"If you want agriculture to change at grassroots level, farmers need to be rewarded and get some kind of premium to reward them for changing their practices."

Founder/CEO, ag marketplaces and fintech company

"Farmers [have]...had so much stuff thrown at them over the last 15 years or so – particularly in the area of 'precision' farming, much of which has over-promised and under-delivered."

Founder/CEO, analysis and measurement company



# Opportunity and challenges in the value chain and wider ecosystem

- An increased focus on sustainability in the value chain can drive change. The supply chain is starting to play a bigger role, which can drive uptake by farmers who provide crops and produce to players such as large manufacturers and distributors. Consumer pressure can also drive action as they seek greater information linked to sustainability, driving data gathering and innovation.
- However, participants felt that key parts of the supply chain were dominated by big brands that can sometimes be a barrier to change, exacerbated by lack of regulation to enforce sustainability commitments. Participants highlighted a lack of follow-through on some sustainability commitments or initiatives, as well as 'stickiness' in pricing that meant the supply chain wasn't always willing to pay a premium for a more sustainable product. Legislative change was seen as a potentially powerful lever to force companies to make tangible changes to deliver on sustainability commitments and drive the evolution of a supply chain that can support farmers and incentivise adoption of new technology and sustainability practices.
- A key theme was the experience of siloed thinking across the sector, with actors across government, financiers, farmers, and Agritech companies not joined up, and therefore missing opportunities for collaboration. Participants called for a better way to connect the agriculture ecosystem and deliver a more holistic approach to sustainability.

"If organisations are going to make sustainable commitments, they need to see them through. Because if we don't have the pull from the front end, it doesn't matter how much money you throw at the back end, it won't make a difference."

Founder/CEO, ag marketplaces and fintech company

"The aim of sustainability is typically pushed by corporates... who are saying 'you need to be farming in a regenerative manner or this particular way' in order to tick ESG boxes."

Founder/CEO, analysis and measurement company

"People want these new products, they want this change, they want transparency."

Founder, analysis and measurement company

"There needs to be a better way we connect the different parties of the ecosystem, too many things are in silos and there's too much repetition."

Non-Executive director, robotics company

"What I'm seeing in continental Europe is a real joined up approach from farmer to manufacturer, universities are involved, etc. I don't see that in the UK – in fact, I've seen the reverse."

Executive Chair, bioenergy and biomaterials company





# **Funding environment**

- Funding and financing were key challenges raised by participants. Whilst companies flagged the significant grant funding available with some participating companies having secured grant funding for their own businesses, notably from Innovate UK there were challenges and limitations expressed in the execution and delivery of this financing. This included conditions for securing the grants, and lack of follow-through after grant awards. Several suggestions were made for increasing the effectiveness of Innovate UK and grant funding, including better spotlighting of success stories, and increasing availability of R&D finance post-Brexit.
- As companies moved up the financing ladder, they
  experienced a range of challenges with the wider
  private financing landscape. This included a lack of funding
  at seed/Series A level, and a lack of dedicated Agritech
  investors. Challenges with proving the commercial
  deployment of tech as a condition for finance was also
  raised by firms, creating particular difficulties at earlier
  stages in the company growth journey. Political instability
  has also impacted the financing landscape and made
  investors more hesitant, slowing down financing growth.
  Some felt that high profile and 'hyped' parts of the
  Agritech sector that had subsequently failed or
  underperformed had hampered wider investor appetite
  for Agritech investment, evidenced by the drop in finance
  over the past few years.

"There's so much money being offered in grants, only to find that if you want a £500,000 grant, someone says "No problem, but you have to spend the money first and show us the receipts". If I had the £500,000, I wouldn't be asking them for the money."

Founder, waste company

"We really abstained from grants because we felt... it wasn't helping us as a formative step." CCO, space and satellite company

"The way Innovate UK funding and grants work leaves a lot to be desired. It also allows a lot of businesses or projects to survive on life support, a researcher's pet project funded for 3-4 years, when it should have folded beforehand."

Non-Executive director, robotics company

"What I find funny about Innovate UK is that once projects are complete, it's like "okay everyone go home"... There's no real concerted effort for Innovate UK to talk about the great work being done."

Founder/CEO, analysis and measurement company

"From the UK perspective, one of the biggest weaknesses in the UK is funding at the seed and Series A level, or dedicated Agritech investors... it seems there's a real valley of death as far as funding is concerned once you get to seed and Series A in the UK if you're an AgTech company."

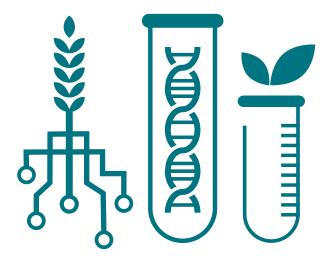
Founder/CEO, analysis and measurement company

"There are a lot of projects that are worthwhile that don't get funded... having left Europe, we should be putting more money into that sort of R&D."

Founder/CEO, analysis and measurement company.

"It's difficult for companies – especially hardware – to develop the funds needed for implementation."

Founder/CTO, analysis and measurement company



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# **Government & Regulation**

- · Participants highlighted challenges with the policy and regulatory environment, with a sense that the new government did not have a clear strategy for net zero delivery. This affected the wider ability to plan, as well as investor confidence. Participants called for more strategic regulation and policy frameworks. They sought a balance between greater strategic direction from government on overall net zero goals and objectives, including for agriculture – but balanced against a 'hands off' approach to execution on the ground that allowed experts closest to the issues to lead on delivery. Some participants called for a more thoughtful approach to regulatory change, with particular focus needed on the roll-over to the UK market of EU regulation that had been onshored. especially if impact on Agritech or sustainability opportunities may be negative. There was a sense that the lack of strategic forward direction post-Brexit has meant the UK has been running behind the EU in terms of Agritech regulation - including, for example, on restrictions on insect protein in animal feed.
- Additionally, some participants flagged the need to update the legislative framework and regulation to acknowledge the reality of Agritech innovation, so that regulation did not inadvertently hamper scale-up. This included areas such as insect proteins, animal feed, and pesticides. Whilst some participants highlighted the barriers these current regulatory structures created, they also noted it was an opportunity to work closely with Defra and policy makers to design updates to the regulation, working in partnership to ensure policy can be an enabler for Agritech innovation.
- Lastly, participants flagged the importance of skills and talent to their businesses. They noted challenges around the availability and recruitment of talent, both domestically and internationally, and the need for a greater focus on developing the right skills needed for Agritech development and deployment – whether that be via the right visa set-ups or investment at the university level to build a strong talent base.

"With Brexit happening we've basically been put into a bit of a limbo period, we haven't been able to adopt EU regulation as perhaps we should have done, they're running about three years ahead of us which puts us at a disadvantage if we're looking to export."

Co-founder/CEO, waste company

"Letting government get out the way a bit would be good."

Founder/CEO, analysis and measurement company

"Political instability has been a real nightmare... We're having political instability pushed back at us quite a lot [by investors]."

Founder, waste company

"The problem we have is that government...
get involved in the detail of how to
implement things. It's not their job or
skillset. Let us do that."

Executive Chair, bioenergy and biomaterials company



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# Summary of Agritech company insights from roundtables

**Optimism felt in the sector,** with many farmers already using Agritech in some form and a greater understanding for the need and role that environmentally sustainable practices can play in farming.

Siloed thinking across actors, and barriers along the value chain, were some of the more frequently cited challenges. Agritech firms perceived that actors tended to think in terms of silos rather than the whole ecosystem. They stressed the need for a more holistic approach to maximise potential and impact. The dominance of a handful of large players in the supply chain can make systems hard to change and is not currently delivering incentives to farmers to adopt or change practices.

Companies faced broader financing challenges, including lack of funding at seed/Series A level, lack of dedicated Agritech investors, challenges in demonstrating tangible value to access funding, and weaknesses in grant systems. Companies also highlighted challenges with the need to demonstrate a commercialised product to get funding, which isn't always feasible. Firms did not feel they could always deliver the returns at the level or speed needed by investors.

Policy, regulation, and government funding were front of mind for many, with a range of suggested areas for government action to better support Agritech companies as they grow and scale. These included potential changes to the Innovate UK grant and funding system, updating regulation to address Agritech innovation such as insect protein and pesticides, legislation to drive change in the supply chain, and greater strategic thinking and direction from government on overall net zero goals and objectives, including for agriculture.

# **Summary of insights**

There is optimism about the future of the Agritech sector and its role in the future of farming

- Many farmers are taking or planning to take action to decarbonise or implement sustainable farming practices in the next two years, including Agritech adoption – with 60% looking to embrace new technologies or farming techniques.
- **Agritech companies** were excited by the opportunities to use new technology to foster and facilitate sustainable agriculture.

Confidence in government is low from both farmers and Agritech developers

- Lack of clarity and strategy from government were key points of contention across **farmers** and **Agritech companies**.
- Where support has been positively received, e.g. from Innovate UK or grants, there was a sense this hasn't been maximised or followed through.
- There is room for the regulatory and policy framework to better reflect the realities of the current and future Agritech landscape.

There is a disconnect felt across the Agritech ecosystem

- Farmers are not feeling Agritech is necessarily designed for their needs, and feel that increases in Agritech investment aren't making it to the farm.
- **Agritech companies** highlighted siloed thinking as a key challenge that stymies collaboration and join up between actors.

Skills and talent are a barrier to both development and adoption

• There was a challenge in finding/recruiting talent, from both the **Agritech companies** as well as **farmers**, who highlighted a drop in the strong pipeline of workforce coming out of university or technical degrees.

Upfront cost and unclear return on investment are the key barriers for farmers, with Agritech companies also facing funding challenges

- The biggest barriers to farms in adopting new technology include unclear return on investment or business case for adopting; the expense to get started and set up; as well as lack of knowledge about how best to use technology within the farm.
- Agritech firms noted the drop in finance following a peak several years ago. They also face capital constraints and challenges with needing to demonstrate a commercialised product to get funding – which isn't always feasible.

The supply chain could play a critical role but is not currently doing so

- The supply chain was seen to have the potential to be a key player in driving change. But the system is hard to change, with a lack of incentives for farmers, and businesses not necessarily yet delivering on their headline commitments to sustainability.
- Farmers saw potential opportunities for the supply chain to help farms differentiate and command a high price for their product whilst also making it easier for farmers to provide requested data e.g. on carbon.

# Policy recommendations

Across our insights from farming clients and Agritech companies, there were several clear themes that emerged as barriers to Agritech success. Alongside optimism about the future of the Agritech sector and its role in the future of farming, confidence in government was low from both farmers and Agritech developers, driven in part by the lack of clarity and strategy for agriculture, net zero, and the role of Agritech within that. There was disconnect across the various players in the Agritech ecosystem; skills and talent barriers which were hampering both Agritech development and adoption; and financing challenges on both sides of the equation.

Confidence in government was low from both farmers and Agritech developers. driven in part by the lack of clarity and strategy."

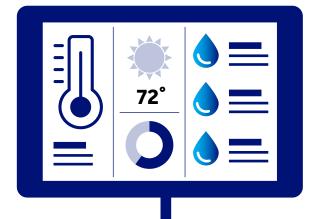
To address these barriers, this paper puts forward 3 key recommendations for government:

#### Recommendations

Deliver an overarching strategy for the agriculture transition, promoting Agritech and futurefitting regulation.

Turbocharge the recently combined UK Agri-Tech Centres into an empowered, effective ecosystem-wide Agritech hub that can deliver connection across the value chain and support skills development.

Ensure appropriate financial support for both Agritech development and adoption, delivered to target key barriers to adoption.



# Recommendation 1 Deliver an overarching strategy for the agriculture transition, promoting Agritech and future-fitting regulation.

Both farmers and Agritech developers highlighted the lack of clarity around government strategy being a key concern and a barrier to scale and technology adoption. This sentiment goes beyond Agritech. The lack of certainty on the wider agriculture strategy and pathway affects Agritech adoption and investment, by hampering the ability of stakeholders to formulate business plans or investments in Agritech adoption within a wider context that provides clarity on future direction.

Deliver an overall strategy for the future of the agriculture sector. This should include the interrelationship with the net zero pathway, an evaluation of the 2013 Agritech strategy, the roadmap for ELMs, and a plan for the wider food supply chain as part of the national food strategy – taking a whole value chain approach to policy design.

 Government should communicate a clear vision and strategy for the future of agriculture, including support for delivering its pathway to net zero (Recommendation 1a). The announcement that Defra is developing a 25-year farming roadmap provides a clear opportunity to articulate this. Within this context, the government has already acknowledged the important role that Agritech can play in delivering both productivity gains and protecting the environment.27 The 25-year roadmap should therefore explicitly consider the role of Agritech, and how barriers laid out in this paper around financing, ecosystem disconnect, and policy and regulation, can be addressed.

- To inform work on the 25-year roadmap, as well as other government strategies such as the upcoming development of a national food strategy,28 the government should take the opportunity to review the success of the previous 2013 Agritech strategy, including the policy and financial measures within it (Recommendation 1b). The review should assess the effectiveness of the financing allocated, as well as the future of the UK Agri-Tech Centres that it established. This is particularly important given that three of the original four centres have now been combined into a single UK Agri-Tech Centre, that has the potential to play a key role in addressing ecosystem silos if given the right policy backing and buy-in. (See Recommendation 2 for further discussion on the UK Agri-Tech Centre).
- · The government should ensure that the 25-year roadmap is aligned with, and complements, other key parts of the agriculture policy environment, with linkage across initiatives consistently communicated and a focus on providing a clear ability for farmers to navigate the different schemes and strategies. Notably, government should provide longer term clarity and certainty with regards to the evolution of the Environmental Land Management schemes (ELMs) (Recommendation 1c). This is broader than Agritech but provides essential clarity as farmers consider future investments and incomes streams on the farm, and would support farmers in budgeting, planning, and their ability to make longerterm choices about land use and investment - including in Agritech.

#### 

The government has already acknowledged the important role that Agritech can play in delivering both productivity gains and protecting the environment."

- · Government should ensure that the design and delivery of the 25-year roadmap, as well as the wider ecosystem of food and agriculture policy reviews and strategies is done in collaboration with both farmers and the wider range of players in the agriculture ecosystem, such as the food supply chain, finance providers, and service providers such as accountants and valuers. Our insight from farmers and Agritech companies highlighted the potential for the supply chain to play a critical role in driving change in agricultural practices. But stakeholders felt that this impact wasn't currently being maximised, with a lack of incentives for farmers from the supply chain, and missed opportunities for the supply chain to help farmers differentiate their products on the market. The government should therefore explicitly consider how the wider food supply chain impacts practices and financial viability within the agriculture sector as part of the 25-year roadmap and national food strategy (Recommendation 1d). This might include how government can support or incentivise actions taken by the food supply chain to better promote sustainable produce and create incentives (including financial) for farmers to invest in actions, including Agritech adoption, that will enable the delivery of a more sustainable food system.
- · Additionally, farmers felt there were greater opportunities for collaboration with the supply chain with regards to data requests, for example on carbon emissions reporting on-farm. As the UK Government implements various sustainability disclosure requirements, including ISSB standards and transition plans, large companies, particularly in the food sector, may need to extend these reporting requirements through their supply chain businesses to meet their Scope 3 reporting obligations. There is a real opportunity here for well-deployed Agritech to support effective reporting and measurement, reducing burdens across the supply chain.

Ensure regulatory updates are forward-focused and accommodate Agritech application, collaborating closely with developers

- In our engagement, we heard various examples where Agritech companies were running up against regulation that didn't reflect the evolution of the industry and the technology they were developing. This included, for example, restrictions on insect protein in animal feed, where the UK has fallen behind updated EU regulation, which allows types of processed insect protein to be feed for pigs and poultry. Whilst such regulation can present headwinds for Agritech firms, they also noted a unique opportunity to work closely with government to develop understanding of regulatory barriers, their impact, and collaborate on updates.
- · Defra should look to enhance collaboration with Agritech firms to understand unintended consequences and work together on regulatory updates, ensuring open channels with Agritech companies developing cutting edge products and services to consider how and where the legislative framework could be updated (Recommendation 1e). This should be alongside collaboration with farmers, to ensure joined up regulatory development that works across the ecosystem. Taking a more innovative and forward-looking approach to regulation in the food and agriculture space will likely involve contending with a range of considerations, but enhanced collaboration would be a key step in ensuring the government stays front-footed in supporting innovation and growth in this sector. The new Regulatory Innovation Office presents a real opportunity to support this work, both in evolving the regulation and streamlining and accelerating approval processes in the Agritech sector for new technologies.

**Enhanced collaboration would** be a key step in ensuring the government stays front-footed in supporting innovation and growth in this sector."

# **Recommendation 2** Turbocharge the recently combined UK Agri-Tech Centre into an empowered, effective ecosystem-wide Agritech hub that can promote ecosystem connection and support skills development.

Both farmers and Agritech developers highlighted a disconnect across the ecosystem. Farmers felt that Agritech was not designed for their needs and that investment in Agritech wasn't flowing to the farm. Agritech developers highlighted siloed thinking as a key challenge that was stymying collaboration and join up between actors. Action is needed to effectively connect these audiences.

Government can play a critical role in supporting coordination between policy makers, farmers, Agritech developers, and the academic community. The merger of three of the four UK Agri-Tech Centres into a single UK Agri-Tech Centre, backed by Innovate UK, has the opportunity to drive genuine ecosystem collaboration and play a catalytic role in UK Agritech development and adoption. This potential has been highlighted by Defra in the recent Land Use Consultation, which highlighted ongoing work alongside the Agriculture and Horticulture Development Board (AHDB), research institutes and the new UK Agri-Tech Centre to "accelerate adoption of new technologies and land management practices by sharing knowledge and best practice". 30 As part of its planning under the Land Use consultation, the government should consider the following actions:

There is a real appetite from farmers to be involved in this sort of collaboration to enhance the practical relevance of research and technology on the farm."

- Working with Innovate UK and Defra, the **UK Agri-Tech** Centre should build in an explicit role for farmer participation and input (Recommendation 2a). The Centre has already highlighted the importance of taking a "systems-wide approach to increasing Agri-Tech innovation and adoption,"31 though with a strong existing focus on Agritech developers. The new Centre should explicitly expand its mandate to bring farmers and agriculture businesses into its activities and value proposition. There is a real appetite from farmers to be involved in this sort of collaboration to enhance the practical relevance of research and technology on the farm.<sup>32</sup> In this vein, the Agri-Tech Centre, with the support of government, should consider how it can deliver or support more pilot or demo farms that allow Agritech companies to test and innovate alongside farmers, ensuring Agritech products can be developed with farmers as the end-user front of mind. (Recommendation 2b)
- Some stakeholders in the agriculture and food sector have called for an Agriculture What Works Centre, which would use evidence to improve the design and delivery of public services, providing a link through from academic research to policy implementation for Agriculture. Advocates notably include Henry Dimbleby in his independent National Food Strategy Review, 33 which called on the government to establish a What Works Centre for sustainable farming, building on pilot work undertaken by the Agriculture and Horticulture Development Board (AHDB).34 More recently, the National Farmers Union (NFU) has expressed support for "more coordinated mechanisms for knowledge transfer and knowledge exchange" to deliver strong working links between the science community and farmers implementing new innovations in practice.35 This need for such coordination, knowledge transfer and test-and-learn approaches was echoed in our insights.

<sup>&</sup>lt;sup>30</sup> Department for Environment, Food & Rural Affairs. <u>Land Use Consultation</u>. January 2025

<sup>&</sup>lt;sup>31</sup> UK Agri-Tech Centre. Future of Agritech Report. April 2024.

<sup>&</sup>lt;sup>32</sup> National Farmers Union, and Centre for Effective Innovation in Agriculture. <u>UK farmer & grower research priorities</u>. August 2024.

<sup>&</sup>lt;sup>33</sup> Henry Dimbleby. <u>National Food Strategy: Independent Review</u>. 2021.

 $<sup>^{34}</sup>$  AHDB. <u>AHDB Response to the National Food Strategy</u>. July 2021.

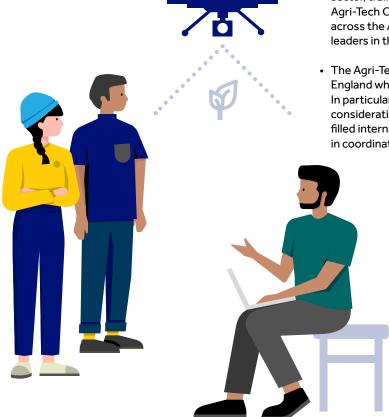
 $<sup>^{35}\,\</sup>text{All-Party Parliamentary Group on Science and Technology in Agriculture}.\,\underline{\text{Notes of Inaugural Meeting}}.\,\text{November 2024}.$ 

• The government and Innovate UK should therefore explicitly consider how they can best support ecosystem connection and bring together different voices to collaborate on Agritech design and implementation (Recommendation 2c). This should include the best vehicle for delivering support for establishing strong links between the research community, commercial innovation, and farming communities implementing new technology. To prevent ecosystem fragmentation, any consideration of a What Works Centre for agriculture should explicitly link to, or be contained within, the work of the UK Agri-Tech Centre. This would create a further opportunity to establish a central collaboration point across the Agritech ecosystem.

**Both farmers and Agritech** firms highlighted the challenge in finding and recruiting talent."

Additionally, both farmers and Agritech firms highlighted the challenge in finding and recruiting talent, which can hamper both the development and uptake of Agritech solutions.

- · Working with Skills England and Defra, the new UK Agri-Tech Centre should develop a clear skills offer, leveraging its cross-ecosystem connections and as part of its consideration for Catapult application (Recommendation 2d). Similar Centres for Innovation and the Catapult network have developed successful skills development and talent retention schemes.<sup>36</sup> One example is a programme at the Satellite Applications Catapult that brokers work experience in the space sector. It has provided 450 placements over 10 years and is helping build a talent pipeline for the sector.<sup>37</sup>
- The UK Agri-Tech Centre should develop a compelling skills programme to support the development of a robust pipeline of domestic talent for Agritech innovation, as well as for agriculture and farming. This could also include considering how to encourage young people to develop the skills needed for a future where more Agritech is deployed on farm. Previous research by Barclays found that just 3% of 18-30 year olds surveyed by Barclays said they would view farming and agriculture as a desirable career.<sup>38</sup> Promotion of the sector, training, and support via a truly integrated UK Agri-Tech Centre could play a unique role in building skills across the Agritech ecosystem and developing future leaders in the sector.
- The Agri-Tech Centre should work closely with Skills England when it formally launches to build out this offer. In particular, it should collaborate to feed into any specific considerations or gaps in workforce that may need to be filled internationally, given the role Skills England will play in coordinating with Migration Advisory Committee. 39



<sup>&</sup>lt;sup>36</sup> Catapult Network. <u>Case studies from across the Catapults</u>. Accessed December 2024.

<sup>&</sup>lt;sup>37</sup> Catapult Network. Where do space and skills collide? Accessed December 2024.

<sup>&</sup>lt;sup>38</sup> Barclays. <u>Barclays backs next generation to boost Britain's farms</u>. November 2018.

<sup>&</sup>lt;sup>39</sup> Department for Education. Skills England. November 2024.

# **Recommendation 3** Ensure appropriate financial support for both Agritech development and adoption, delivered to target key barriers to adoption.

Throughout our insights, the challenge of financing was continually raised. For farmers, upfront cost and unclear return on investment were key barriers; for Agritech companies, they faced challenges meeting investor requirements such as the need to demonstrate a commercialised product as a criteria for raising finance.

### **Recommendations to support** farmer adoption

- The government's Environment Land Management (ELMs) schemes are the central mechanism by which the government provides financial support for farmers. Noting the various ways that both ELMs, and the wider range of programmes under the Farm and Countryside Programme, already provide support for farmer uptake of Agritech – such as under the Sustainable Farming Incentive (SFI), the Farming Investment Fund, and the Farming Innovation Programme – the government should ensure that it continues to provide incentives to farmers to adopt Agritech and address cost barriers.
- In addition to providing the long-term certainty around ELMs (Recommendation 1c), the government should ensure that the list of eligible activities under the SFI is appropriately updated at scheme review points to enable farmers to be rewarded for adopting innovative Agritech that can deliver sustainability benefits (Recommendation 3a). Inclusion in the SFI provides an avenue for farmers to secure finance for Agritech adoption, overcoming uncertainty regarding use cases and providing more financial certainty.
- To build farmer confidence in use cases for technology, overcome uncertainty around return on investment, and support farmers considering their own pathways to Agritech adoption, government should seek opportunities for greater showcasing of success stories of farmer adoption of Agritech (Recommendation 3b). This can help farmers understand from their peers the longer-term financial benefits that could be available from Agritech adoption. This could be done through the UK Agri-Tech Centre, on governmentled platforms such as Defra's Farming and Countryside Programme Blog, or via Innovate UK.

### **Recommendations to support** Agritech development

- · The financing challenges faced by Agritech firms represent classic 'missing middle' financing challenges that we see faced more broadly in capital intensive, infrastructure heavy climate tech start-ups at the growth and scale-up stage. We have previously discussed a range of policy recommendations for government to consider as part of our Scaling Climate Tech report. Aligned with the recommendations in that report, the British Business Bank (BBB) and the National Wealth Fund (NWF) should consider where they can deploy targeted support for Agritech, particularly where it aligns with ambitions under the government's Industrial Strategy, growth mission and net zero goals (Recommendation 3c). This could include opportunities such as guarantees for lending, or playing a role in derisking investment in nature-based solutions and innovative technology.
- Agritech companies were grateful for the support many had received through Innovate UK. However, they also saw opportunities to improve the offering and grant experience, as well as greater promotion of success stories. As such, Innovate UK should promote success stories and showcase use-cases and deployment of Agritech to maximise the wider impact of its Agritech grants (Recommendation 3d). This could increase awareness, celebrate success, and support the wider opportunity for the UK to be a leading centre for Agritech development and deployment.

The government should ensure that it continues to provide incentives to farmers to adopt Agritech."

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Agritech: supporting the future of farming April 2025 Author: Sophie Fry sophie.fry@barclays.com

Barclays currently provides support to sectors that significantly contribute to global greenhouse gas emissions, including the oil and gas sector. Barclays is working to reduce the emissions it finances; for more information on our strategy, visit home.barclays/netzero.



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