



George Freeman MP was elected to Parliament in 2010 after a 15-year career in technology venture capital. Over 14 years, he served in key science and technology ministerial roles under four Prime Ministers. George has long championed science and technology in agriculture. He launched the UK Agri-Tech Industrial Strategy in 2014 and co-chaired the Taskforce on Innovation, Growth & Regulatory Reform. Re-elected APPGSTA chair in 2024, he leads the 30:50:50 campaign to boost productivity while reducing farming's environmental footprint.

Feeding Britain sustainably to 2050 - the 30:50:50 mission

British agriculture is at a tipping point. Competing land-use pressures could see a quarter of our farmland lost and food production fall by a third by 2050. Without radical policy change to boost farm-level productivity alongside environmental goals, we risk ever-increasing dependence on food imports at a time when climate shocks, conflict and geopolitical instability are threatening supply chains around the world.

A new report published in November 2025 by the All-Party Parliamentary Group on Science and Technology in Agriculture (APPGSTA) issued a stark warning: productive British agriculture is under pressure as never before. The report sets out a bold, science-led plan to reverse stalled productivity growth - harnessing the latest advances in agricultural technology and innovation to increase farm output by 30% by 2050 while halving environmental impact. We must align policies around innovation, productivity and sustainability to ensure Britain can feed itself affordably in a changing world.

Our report, *Feeding Britain Sustainably*

to 2050 - *The 30:50:50 Mission*, points to a modelling study conducted by the Science for Sustainable Agriculture think-tank in response to the All-Party Group's 30:50:50 inquiry.

Led by former NFU chief economist Dr Derrick Wilkinson, *UK Food security: Outlook to 2050* warns that full implementation of current government targets for housing, renewable energy, tree planting, nature restoration and infrastructure could result in the loss of up to a quarter of farmland over the next 25 years - much of it high-quality arable land. At current rates of farm productivity growth, this would mean a decline in domestic food production of around one-third by 2050.

If we do nothing to protect our most productive farmland, and to boost agricultural yields, Britain will become ever more dependent on imported food at a time when climate shocks, conflict and global instability are threatening supply chains around the world.

That is why, at a major Agri-Science Summit at Westminster attended by more than more than 100 politicians, scientists and industry leaders, we set out a practical, science-based plan to increase UK agricultural output by 30% by 2050, while reducing farming's environmental footprint by 50% - in terms of greenhouse gas emissions, land use, water use and soil health.

The 30:50:50 mission is about aligning food security with sustainability and innovation - producing more from less.

A tipping point for UK agriculture

Despite world-class agri-science and a highly professional farming sector, UK agricultural productivity growth has stalled. Across successive governments, fragmented support policies, excessive red tape and a failure to translate scientific advances into practice have held the industry back.

Defra's own research indicates that its current 'land-sharing' farm policies risk reducing or displacing domestic food production. Unless we reform





George Freeman MP, APPGSTA chair, launches the 30:50:50 Agri-Science Summit at Westminster in November 2025

those policies to incentivise productivity alongside environmental goals, we risk a serious erosion in our capacity to feed ourselves, alongside declining investment in critical infrastructure, input supply and innovation.

The government’s Food Strategy, published last July, rightly sets out a vision for a healthier, more affordable and sustainable food system.

But progress towards that goal risks being undermined by competing departmental agendas – not least the rapid industrialisation of solar farms on productive farmland. We cannot afford to sacrifice prime agricultural land in the name of climate targets. Food security is part of sustainability, not in competition with it.

The case for a joined-up mission

The challenges we face – population growth, climate change, geopolitical instability – demand a joined-up, cross-government response. The 30:50:50 framework provides exactly that: a single, long-term reference point for all food, farming and land-use policies.

Our call is simple: embed the 30:50:50 mission across government departments, and elevate the importance of food security alongside climate and environmental objectives by adopting a statutory target of 75% UK food self-sufficiency by 2050.

Doing so would send a positive signal to farmers, investors, and researchers

alike that food production is a national priority, on an equal footing with biodiversity and net zero.

Support for the 30:50:50 mission

Since launching the 30:50:50 vision as part of the first ever Agri-Science Week in Parliament event in January last year, the All-Party Group has engaged with more than 100 organisations and individuals across the food, farming and research sectors.

Three key take-aways emerged from this evidence-gathering process:

- The 30:50:50 ambition is widely endorsed as a long-term, strategic framework, and as a unifying point of reference to align productivity, sustainability and innovation goals.
- There is strong agreement that our current policy framework is not fit-for-purpose to deliver against a ‘more from less’ agenda.
- There is also broad consensus that science, technology and innovation must be central to a re-framing of the policy agenda for UK agriculture, with better use of farm data at its core.

International context

We are not alone in this mission. Around the world, governments are realigning agricultural policy to link productivity with sustainability. The United States’ Agricultural Innovation Agenda aims to increase output by 40% by 2050 while halving its environmental footprint.

The EU’s new Vision for Agriculture and Food also marks a decisive shift towards innovation-led productivity growth, and a move away from the production-limiting “Farm to Fork” agenda. Similarly, the recent FAO-OECD Outlook 2025–34 report forecasts a 14% rise in global food production combined with a 7% emissions reduction over the next decade, driven by uptake of new technologies to reduce emissions and enhance productivity.

Britain must not be left behind.

What we urgently need now is clarity from government about the future direction for UK agriculture. Ministers rightly insist that “food security is national security” – but does that mean producing more of our own food, or simply importing more from abroad?

The answer to that question will shape the investment decisions not only of UK farmers, but also of the research-based companies and organisations whose technologies, innovations and advice will be needed to drive sustainable gains in domestic agricultural productivity.

A unique reset moment?

Combined government plans for a farming roadmap, SFI reset, land use framework and food strategy present a unique opportunity to set a bold, long-term vision for the farming industry.

Our high-level policy recommendations to government demand an urgent re-framing of the policy agenda to deliver against the 30:50:50 mission by harnessing the latest advances in agricultural science and innovation, including how we:

- organise and prioritise research to deliver farm-level impact;
- make better use of farm data to drive productivity gains;
- boost knowledge exchange onto farm to close a widening yield gap in our major food crops;
- streamline regulation to accelerate the route to market for inputs and technologies with potential to deliver on the 30:50:50 goals;
- prioritise genetic innovation in crops and livestock as the main driver of farm-level productivity and sustainability improvements;
- protect our most productive farmland for high-yield food production;



Support at the November 30:50:50 Agri-Science Summit included Robbie Moore MP, Daniel Zeichner MP, Rachel Bailey, Defra Deputy Director for Agri-innovation Growth and Trade, George Freeman MP, James Wild MP and Charlie Dewhirst, MP

- stimulate the development and uptake of real-time data capture to unlock performance and efficiency benefits, and to transform data-sharing from a perceived threat into a demonstrable benefit;
- adopt a more outcomes-based approach to the delivery of farm support policies to reward measurable progress against 30:50:50 objectives. Importantly, our recommendations also align closely with the findings of Baroness Minette Batters' recently published 'Farming Profitability Review', which highlights the need for long-term policy goals to drive productivity growth, support better use of farm data, and improve the transfer of new scientific knowledge onto farm.

The opportunity ahead

From genomics and biotechnology to robotics, AI and precision agronomy, we have the means to produce more food with less impact. What is missing is the policy alignment to unleash that potential.

British agriculture is at a tipping point. We can continue to drift without a clear sense of direction, losing productivity, confidence and investment, or we can capitalise on our agri-science expertise to lead the world in showing how

technology, data and innovation can produce more food with less land, reduced inputs and fewer emissions. As we look ahead to 2050, we must ensure that our farmers have the tools,

technologies and policy framework they need to feed Britain sustainably. The science exists. The ambition is there. Now we need the political vision and leadership to make it happen.

Download the reports

