

# Unleashing ClimateTech Innovation in 2023

November 2023

## About the ClimateTech Policy Coalition

The ClimateTech Policy Coalition consists of the Startup Coalition, Undaunted, techUK, Tech Nation, Cleantech for UK, and TechZero. Together they represent entrepreneurs, inventors and innovators on the forefront of climate technology, or climate-tech.

Its mission is to help unlock the economy of the future: a low to no carbon future of green growth fuelled by British innovators.

In December 2022, the ClimateTech Policy Coalition published its first report on steps that the Government should take to unlock ClimateTech innovation in the UK. The report featured the findings from a series of roundtables that took place between June and October 2022. This report is an update to the first report, outlining progress made and work ahead. It remains grounded in the experience of ClimateTech entrepreneurs in the UK today.

## About Startup Coalition

Startup Coalition, formerly the Coalition for a Digital Economy (Coadec), is an independent advocacy group that serves as the policy voice for Britain's technology-led startups and scaleups.



Startup Coalition was founded in 2010 by Mike Butcher, Editor-at-Large of technology news publisher TechCrunch, and Jeff Lynn, Chairman and Co-Founder of online investment platform Seedrs. Startup Coalition works across a broad range of policy areas that matter the most to startups and scaleups: Access to Talent, Access to Finance & Regulation.

## About Undaunted

Undaunted – a partnership between Imperial College London and the Royal Institution – is nurturing a climate innovation ecosystem in London, supporting successful creation and scale up of businesses that tackle climate change. Over 150 exciting startups have graduated from its accelerator programme, The Greenhouse, going on to raise more than \$1 billion in investment since 2012 and creating over 1,500 jobs in 30 countries. Across all industries, the survival rate of new startups is 10 per cent; for startups graduating from Undaunted, the survival rate is over 93 per cent. Other core activities include the world's first Master's in Cleantech Innovation, the upcoming Better Futures Retrofit Accelerator and a year-round programme of community building, education, policy and public engagement.



Undaunted

## About techUK

techUK is the UK's leading technology membership organisation, with more than 850 members spread across the UK. They are a network that enables its members to learn from each other and grow in a way which contributes

to the country both socially and economically. By working collaboratively with government and others, they provide expert guidance and insight for their members and stakeholders about how to prepare for the future, anticipate change and realise the positive potential of technology in a fast-moving world. techUK launched in 2013 to champion the technology sector and prepare and empower the UK for what comes next, delivering a better future for people, society, the economy and the planet.



## About Tech Nation

Tech Nation is the leading growth platform for tech insights, connections, collaboration and talent, empowering ambitious founders and their teams with the access and knowledge they need from seed stage to success story.



**TECH NATION**

Powered by the Founders Forum Group, our approach unites the tech ecosystem whilst placing founders from all corners of the UK and beyond at the forefront, amplifying their needs and challenges and empowering them to grow their businesses so they can positively transform our world.

## About Cleantech For UK

Launched in February 2023, Cleantech for UK is an initiative which was set up to provide a collective policy voice for a group of climate focused, UK based investors. Cleantech for UK advocates for policy reforms to support and increase the flow of private investment into cleantech, to develop climate technology in all forms. The coalition comprises a group of company builders and investors spanning the innovation lifecycle from company formation to IPO and beyond, united in trying to bring forward the next generation of UK clean industry. Further detail on the coalition can be found [here](#).



The initiative is supported by Bill Gates' Breakthrough Energy and organised by Cleantech Group.

## About TechZero

Tech Zero is the climate action group of over 350 tech companies committed to reaching net zero. We aim to decarbonise the tech industry as soon as possible by educating tech companies across all sustainability topics; offering wide-ranging support to reduce their emissions; and bringing together a committed community. We believe that by joining forces, we can make faster progress to net zero.



# Executive Summary

In December 2022, the ClimateTech Policy Coalition produced its first report advocating for low to no cost policy changes in the UK to promote climate innovators to mitigate, adapt to, and know more about climate change. The 28 recommendations produced covered the entire economy and would unlock growth and accelerate innovation.

Twelve months later this report reflects on a year in ClimateTech policy, includes views from founders on the frontline, and examines progress made on the recommendations from the first report.

It has been a busy year in climate policy: from the creation of a new department overseeing the UK's energy security and net zero strategy, to an Independent Review of Net Zero. On **page six** of this report we chart the year in policy so far, alongside key events that progressed our recommendations.

As always, the work of the Coalition is grounded in the experiences of founders doing the actual work. Their reflections on the past year are summarised on **page seven** and depict a year filled with distraction and some missed opportunities, but a rich vein of getting on with the job regardless.

From **page eight** onwards, we critically assess the progress made across our 28 recommendations from last year's report.

**Two of our recommendations have been enacted:** the definition of greenhouse gas removal has been updated in law with the passing of the Energy Act which will provide a small step forward in demonstrating the UK Government's commitment to the engineered removals sector. Meanwhile, Ofgem has advanced in scoping out a Policy Sandbox, which could be a vital tool in exploring innovation in the energy market, and gives energy startups an additional gateway to experiment with the regulator.

**Thirteen of our recommendations have made marked progress but still have some way to go.** These included the need to create a consistent policy environment for ClimateTechs, which was complicated by the Prime Minister's pivot on messaging, but has not materially led to dramatic policy change in the short-term. Also amongst these recommendations was the need to reform the pension charge cap, which has progressed significantly with the Mansion House reforms.

Further, we've also seen concrete steps in refreshing and reforming regulation to support ClimateTech innovation: reform of the novel food regulations has progressed with Deloitte's independent review, whilst the Government announced a surprising ambition to explore the introduction of a "Waste Innovation Sandbox" as part of its Green Day announcements in March.

**Three of our recommendations have marginally progressed,** all associated with the building of a high quality, high integrity carbon market in the UK.

**Ten of our recommendations have not progressed,** including missed opportunities to advance innovation in the built environment, which is a critical sector in our net zero plans and requires intervening to ensure that the underlying regulations and metrics are incentivising the right behaviours.

Two of our transport sector recommendations were also included in this category, which was largely due to the missed opportunity of the Transport Bill being dropped from the Government's priorities.

As we look towards an election year, the recommendations from last year's report remain as critical as ever: climate innovators are already delivering growth, jobs and decarbonisation in the UK today, but their progress can be accelerated through low-cost policy changes. As a coalition we will continue to press the case for urgent and creative action to unlock climate innovation - we are open to engage with ClimateTech founders of all kinds, from every sector of the economy, and look forward to continuing the conversation with founders, investors and policymakers into 2024.

**The race is on for the UK to be the home of climate innovators, but more importantly, the race is on to mitigate the worst impacts of climate change.**

Last year's report was written at 417ppm.

This year's report was written at 419ppm.

# Introduction

In December 2022, the ClimateTech Policy Coalition published its first report outlining opportunities for the UK Government to unlock ClimateTech innovation.<sup>1</sup> The 28 recommendations were the product of conversations with 100+ ClimateTech founders, across every sector of the economy and they were, almost entirely, designed to be no-regrets, low cost policy changes that would have a meaningful impact on the firms at the vanguard of climate innovation.

## **A year on we are returning to our recommendations, to reflect on the progress made.**

Crucially, this report comes against a different political context to last year. In December 2022, Prime Minister Rishi Sunak had been in office for a mere six weeks, with his agenda dominated by regaining control of the economy put into a tailspin by Liz Truss's mini-Budget. There was, at this point, no indication that he was planning to deviate at all from the net zero targets which had been put in place by Theresa May and furthered by Boris Johnson. However, in the twelve months since, he has steered his administration in a different direction on the politics of climate, with the focus shifting towards the General Election which is highly likely to be in 2024.

The Prime Minister has made net zero a wedge issue, with his administration seeking to highlight the ways in which they differ from the Labour Party's pitch, though the latter remains thin on detail.

Despite this political noise, however, two things remain the same:

- 1. Urgent and ambitious action is required to combat the climate crisis. 2023 will almost certainly be the hottest on record, with record high atmospheric greenhouse gas concentrations conspiring with an El Niño event to lead us into unprecedented territory.**
- 2. Technology and innovation remain vital tools in our efforts to mitigate the worst effects of climate change, adapt to locked in changes to the climate which are certain to happen, and know more about what is an unpredictable and complex subject.**

It is also the case that the technologies in this "ClimateTech" sector will be invented, developed and scaled somewhere. They are often more efficient, economical and more commercially attractive than their fossil-fuel counterparts, but *where* they will emerge is not certain. This "race" for the economy of the future was outlined in Chris Skidmore MP's Independent Review of Net Zero published in January 2023, weeks after our December report.<sup>2</sup>

The ClimateTech Policy Coalition believes that it is in the national interest to maximise the share of this ClimateTech economy that starts, scales and succeeds in the UK. ClimateTechs mean jobs, tax revenue, inward investment, and growth. What's more, the foundations for this sector are firm, and despite economic and political headwinds, they have proven to be robust over the last year.

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<sup>1</sup> <https://coadec.com/wp-content/uploads/2022/12/Climate-Tech-Report-December-2022.pdf>

<sup>2</sup>

[https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/1128689/mission-zero-independent-review.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1128689/mission-zero-independent-review.pdf)

**But it also remains true that they need support from the Government.**

This report refreshes our policy asks, and is designed to appeal to politicians of all stripes that care about combating climate change through innovation, whilst growing the number of green jobs and the economy. 2024 will be a vital year for politics in the UK, but it must also be a year of policy. Beyond the hubris, those in charge need to grasp the extent of the challenge, and the enormity of the opportunity: the climate crisis demands it.



# A Year in ClimateTech Policy



# What the Sector is Saying

The recommendations of the ClimateTech Policy Coalition is grounded in the views and experiences of UK ClimateTech startups and their investors. Our original report was the culmination of ten roundtables with over 100 ClimateTech founders across all sectors of the economy and we have continued these conversations through 2023. Whilst we did not conduct a similarly intensive exercise this year, the Coalition did conduct two roundtables in November 2023 to check in with the sector.

We asked participants what their headlines were from the last twelve months in ClimateTech policy and the Government's pivot on the messaging of net zero, initiated by the Prime Minister's September 2023 speech in Downing Street. Whilst there was no shortage of consternation among firms we spoke with, some cited the impact to investor appetite and uncertainty about the macro-environment for climate innovation, others took a different perspective, suggesting that firms weren't waiting around for the Government. Critically, there was a desire for leadership on climate policy, with some participants praising Chris Skidmore MP's Independent Review of Net Zero and his surrounding engagement with the sector. Indeed, whilst the policy landscape provided a busy, and sometimes noisy backdrop for many firms we spoke with, it was a distraction more than a detriment.

The same could be said for the impact of the US Inflation Reduction Act (IRA), which often dominated conference agendas over the last year, including Undaunted's July Jawdrop Summit. While it has impacted sectors differently, many of the responses from participants in our roundtable discussions this year reflected that it hadn't changed much for them, particularly in the short-term. Whilst we did hear that investors may have taken more notice than founders, in terms of access to funding, many founders in the discussions outlined short-term macroeconomic headwinds as more acute than the impact of the IRA. We heard nearly universally that it has been challenging to access capital over the last twelve months.

On accessing grant-funding, we heard similar comments to those that featured last year. The process is too long, too opaque, and often inconsistent, with many applicants feeling like they had been left in the dark. We also heard specific criticism that the approach to grant-giving can sometimes feel "scatter-gun", and without an overarching strategy. The desire for a "vision" was prominent once more.

When we probed for more sector-specific reflections, many of the same issues that arose at our 2022 roundtables came up again. More than the macro-political change of direction, inconsistency and changes of course in specific policy areas were more impactful on ClimateTech founders. Specific policy issues brought up included changes to the administration of the Energy Entrepreneurs Fund, the scrapping of the Energy Efficiency Task Force, and funding of regulators.

These conversations vindicated the Coalition's perceptions of the last twelve months in climate innovation policy. We have seen marginal gains, and moments of real substance, but these have been outweighed by distraction and mixed messaging. Above all else, there remains a huge amount of low-hanging, no-regrets, low-to-no-cost opportunity to take meaningful action to unlock ClimateTech.

So, let us review how our initial 28 recommendations have progressed over the last year.

# Our December 2022 Policy Asks

Cross-Sector		
1. Ensure there is a stable policy environment with strong net zero goals and signals to ensure market creation and resilience to climate impacts	2. Help ClimateTech firms to bridge the “Valley of Death”, starting by adjusting the pension charge cap	3. Establish a Net Zero Innovation Directorate in the Cabinet Office

Energy	Greenhouse Gas (GHG) Removal	Food & Agtech	The Built Environment	Transport & Mobility	Waste & Packaging	Industrial Decarbonisation	Carbon Accounting	Nature Based Solutions
4. Introduce an “Innovation Pot” into the CfD regime	7. Update the Climate Change Act ‘UK Removals’ Definition	10. Novel Food Authorisation Reform	13. Replace EPCs	16. Pass the Transport Bill & Introduce the LZEV Category	19. Standardisation & Labelling for Compostable Materials	22. Introduce an Office for Carbon Removal	24. Carbon Accounting Standards	27. Reinstate ELMS & Incentivise Innovation Adoption
5. Fast Track Open Energy	8. Deliver the Rec’s of the MRV of GHG Removals Task and Finish Group	11. Reform Food Labelling	14. Make Funding Under the ECO more Accessible	17. Nationwide Low-carbon Mobility Sandboxes	20. Integrate Innovative Packaging Materials and Reuse into Government Strategy	23. Increase Government Procurement of Low Carbon Materials	25. Call for Evidence on Data for Carbon Accounting	28. Incorporate Nature Based Solutions into the UK Emissions Trading Scheme
6. Explore the Concept of an Ofgem Policy Sandbox	9. Take Actions to Establish a Market for GHG Removal	12. Agricultural Autonomous Robots Regulations Reform	15. Pass the Carbon Emissions Building Bill	18. A CfD Regime for Green Hydrogen	21. Introduce a Sandbox for Innovative Use of Waste Products		26. Subsidise Access to Decarbonisation Tools	

**Key:** Green: Success, Yellow: Some Progress Made, Orange: Limited Progress Made, Red: No Progress Made

# Successes

## Energy Startups are Buzzing

### **Policy Ask 6: Explore the Concept of an Ofgem Policy Sandbox**

Over the last seven years, Ofgem's Energy Regulation Sandbox has been successful in enabling firms like Emergent Energy to test drive innovative services in a controlled environment, temporarily relieved from full regulations. In our December 2022 report, we advocated for a similar concept being deployed to enable firms to demonstrate innovation in policy.

In October 2023, Ofgem published a call for input on its proposal to introduce the Future Regulation Sandbox.<sup>3</sup> While it's likely that such a sandbox wouldn't be operational for some time, this is a significant step in facilitating and demonstrating innovation in a highly complex market and we applaud Ofgem's initiative.

## Defining Carbon Removal

### **Policy Ask 7: Update the Climate Change Act 'UK Removals' Definition**

The shining success of our policy recommendations from last year is a niche one. When the 2008 Climate Change Act was initially written, the only scaled way to remove greenhouse gas (GHG) emissions was through nature-based means or land use change. Consequently, this was how the concept was defined in law. The result of this, however, is that as other ways to remove GHGs have been developed, through technological innovation, their deployment did not count towards UK carbon budgets.

These engineered methods of GHG removal include the production of biochar, the use of enhanced weathering, and direct air capture, and are increasingly being developed across the UK today. Though small scale, they have huge potential, and fortunately this was identified as part of the Energy Bill. Gaining royal assent in October 2023, the Energy Act 2023 includes an amendment to the Climate Change Act 2008 to remove explicit reference to the nature of removal, thus integrating non-nature-based means of GHG removal.<sup>4</sup>

Though a subtle change, the result of this is that engineered removal can count towards the UK's legally mandated carbon budgets. Practically, this serves as a positive signal to the market, and investors in engineered removals startups, that the UK Government believes in the sector. Next up, it's vital that the

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<sup>3</sup>

<https://www.ofgem.gov.uk/sites/default/files/2023-10/Proposal%20to%20introduce%20the%20Future%20Regulation%20Sandbox%20CfI%20final.pdf>

<sup>4</sup> <https://www.legislation.gov.uk/ukpga/2023/52/section/160/enacted>

Government continues to build the market for this technology, and also begins work to investigate the physical and regulatory infrastructure required for the firms to thrive and scale - this is discussed below.

# The Elephant in the Room: The Government's Net Zero Tack

## Politics, Not Policy

### **Policy Ask 1: Ensure there is a stable policy environment with strong net zero goals and signals to ensure market creation and resilience to climate impacts**

On 20th September 2023, Rishi Sunak drew a line between his Conservative Party's approach to achieving the UK's legally binding GHG emissions targets and the opposition Labour Party's – as well as a difference between his approach and that of previous Conservative governments. While he outlined the success the UK has achieved over the last decade, leading the developed world in emissions reductions and committing to ambitious climate goals in law, he also announced a pivot. Specifically, he announced that the Government would proceed with “a more pragmatic, proportionate, and realistic approach” to achieving net zero, “that eases the burdens on families.”<sup>5</sup>

Across our ClimateTech Policy Coalition, we have heard concern from many founders and investors about this change of approach, with the overarching concern being that the UK Government is not committed to its climate goals, and to the industries that will drive the low-carbon economy.

It is certainly the case that the mood music matters. The Government has a key role to play in ensuring that the backdrop to the market is favourable, and it is inevitable that when investors are weighing up allocation of funds, they will be impacted to some degree by speeches like this. However, they are more impacted by actions, and while attendees reflected that it negatively impacted demand for their products and services in the short-term, outside of selected changes to the dates associated with the ban on Internal Combustion Engine Vehicles and goals for heat pump deployment, the policies impacting ClimateTech firms in the UK have not shifted materially. Indeed, in the same speech, the Prime Minister also said, “when I look at our economic future, I see huge opportunities in green industry”, and “the UK will remain the best place in the world to invest in the green industries of the future... because of something else this country has always excelled at: innovation in new technologies.”

**The Government's tack on net zero is not a good thing for climate innovation, but neither is it necessarily a bad one: the politics is plain to see, and the policies haven't really changed. To that end, this is not a catastrophe in our eyes: far more important is what happens next. The sector will judge actions, not words.**

One positive step has been the continued progress of establishing the Advanced Research and Invention Agency (ARIA). Ensuring that climate innovation is one of its foundational priorities would be an excellent next step.

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<sup>5</sup> <https://www.gov.uk/government/speeches/pm-speech-on-net-zero-20-september-2023>

# Progress Made

## Money, Money, Money

### **Policy Ask 2: Help ClimateTech firms to bridge the “Valley of Death”, starting by adjusting the pension charge cap**

One thing that has become more pronounced over the last twelve months is that ClimateTech firms, like all startups, are vulnerable to economic headwinds. This is additionally the case because ClimateTechs are disproportionately hardware and R&D intensive, meaning that they require more capital, and more patience from investors.

In our December 2022 report, we proposed that the first step that the Government could take in opening up new channels for patient capital investment in ClimateTechs would be to adjust the pension charge cap, to enable Direct Contribution (DC) pension funds to invest more in venture capital. The Chancellor has delivered considerable progress in this space over the last year.

In July 2023, the Mansion House Compact was signed by the Government and nine of the UK’s largest DC pension providers “committing them to the objective of allocating 5% of assets in their default funds to unlisted equities by 2030.”<sup>6</sup>

In the 2023 Autumn Statement, the Chancellor announced that a further two pension signatories had been added to the Compact, taking the total to eleven.<sup>7</sup> He also announced the British Venture Capital Association’s Venture Capital Investment Compact, as well as the Mansion House Pension Summit. To deploy the capital, a new BBB fund vehicle to attract external capital was announced, alongside plans to consolidate public sector funds and a raft of other measures. Further, the Chancellor confirmed a £4.5 billion investment into UK advanced manufacturing, including EVs, batteries and aerospace. Framed as the UK Government’s response to the Inflation Reduction Act (IRA), the Chancellor confirmed that the UK would not match investment of the IRA or the EU’s Net Zero Industries Act “pound for pound”, but double down on its existing strengths and deploy cash tactically. The \$4.5bn included £960 million earmarked for the new Green Industries Growth Accelerator. This will be aimed at sectors like carbon capture, grid, and energy generation and could be an excellent source of capital for hardware-intensive ClimateTechs.

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<sup>6</sup>

<https://www.gov.uk/government/news/chancellors-mansion-house-reforms-to-boost-typical-pension-by-over-1000-a-year>

<sup>7</sup>

[https://assets.publishing.service.gov.uk/media/655e107697196d00d985d6b/E02982473\\_Autumn\\_Statement\\_Nov\\_23\\_Accessible\\_v3.pdf](https://assets.publishing.service.gov.uk/media/655e107697196d00d985d6b/E02982473_Autumn_Statement_Nov_23_Accessible_v3.pdf)



# The Governance of Climate Innovation

## **Policy Ask 3: Establish a Net Zero Innovation Directorate in the Cabinet Office**

In our December 2022 report we outlined why establishing a cross-departmental agency charged with coordinating the UK Government's Net Zero agenda was important. This entity would function as a gatekeeper for climate-tech firms, this entity would also be tasked with identifying climate innovation opportunities across government, including where updates of the regulation and legislation are required to unlock green growth and reduce multiple types of environmental impact.

**Our call for this was supported by Chris Skidmore MP in his Independent Review, though he called the entity the "Office for Net Zero Delivery".**

The Government has not delivered this, however in February 2023, as part of his Cabinet reshuffle, Rishi Sunak established the Department for Energy Security and Net Zero (DESNZ). This is a positive step and moves away from the less explicitly focused Department for Business, Energy and Industrial Strategy.

We believe that the concept of a cross-departmental strategic entity is sound and urge all political parties to consider it as part of their agenda for the next Government.

## Show Me the Data

### **Policy Ask 5: Fast Track Open Energy**

There is a plethora of startups already delivering value to businesses and consumers through being able to use the data associated with their energy usage. From better value tariffs, to flexible and greener supply, data can unlock all sorts of innovation. Today, however, data is often challenging or not possible to access, and even if it can be accessed with consumer consent, it is unstructured and of inconsistent quality.

Issues like this exist across the economy, but the precedent of Open Banking has demonstrated what innovation is possible when regulation is used to accelerate digitalisation. Today, over seven million consumers have used Open Banking powered solutions, and Startup Coalition data in April 2023 found the value of the UK based Open Banking sector to be in excess of £4bn.<sup>8</sup>

**The energy sector could offer the next Open Banking-style success: data is available, but often siloed and at great expense, and there is consumer demand to access it.**

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<sup>8</sup> <https://startupcoalition.io/news/the-4bn-open-banking-ecosystem/>



Fortunately, this year has seen the Data Protection and Digital Information Bill advance at pace, and it was confirmed to carry over into the next Parliamentary session in the 2023 King's Speech. Part three of the Bill will introduce "Smart Data" powers to enable the Government to instigate Open Banking-style interventions across the economy.

**In the 2023 Autumn Statement, the Chancellor confirmed that Energy would be one of seven priority sectors to be deployed as part of a Smart Data Big Bang.<sup>9</sup> The Government has also promised to publish a Roadmap in early 2024 with its vision for the Smart Data ecosystem.<sup>10</sup>**

We believe the concept of an Energy Smart Data scheme is worthwhile, though it will require consultation to understand which datasets and data holders will be required to act. Crucially, there may be opportunities to look at non-consumer data sets as part of a possible scheme, like that being currently worked on by DESNZ to open up petrol station forecourt datasets.<sup>11</sup> Startup Coalition is also part of the Steering Group of Project Perseus, a trailblazing initiative seeking to automate small business emissions reporting.<sup>12</sup> As a regulated regime is defined, it will be vital to leverage this foundational work.

## This Could Be Tasty

### Policy Ask 10: Novel Food Authorisation Reform

When twinned with renewable energy, cultivated meat offers an intriguing green choice for consumers who are not quite ready for a vegetarian or vegan diet and it represents a significant economic opportunity. The global cultivated meat market was valued at \$246.9 million in 2022, with a predicted compound annual growth rate (CAGR) of 51.6% from 2023 to 2030.<sup>13</sup> Startup Coalition data found that the UK is home to a small but growing cultivated meat sector, which has raised over £70m in the last five years, and is worth over £160m.

Whilst Singapore and Israel remain the front runners in the race to be the home of this nascent industry, in June 2023 the USDA & FDA approved the sale of cultivated meat products for the first time to consumers in the US. In contrast, the current UK regime, under the auspices of the Food Standards Agency, is not fit for purpose. This issue is now more urgent as Israeli startup Aleph Farms became the first to submit an application for cultivated meat to the FSA in August 2023.

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<sup>9</sup>

[https://assets.publishing.service.gov.uk/media/655e107697196d00d985d6b/E02982473\\_Autumn\\_Statement\\_Nov\\_23\\_Accessible\\_v3.pdf](https://assets.publishing.service.gov.uk/media/655e107697196d00d985d6b/E02982473_Autumn_Statement_Nov_23_Accessible_v3.pdf)

<sup>10</sup>

[https://assets.publishing.service.gov.uk/media/655cd137544aea0019fb31e4/\\_8243\\_\\_Government\\_Response\\_Draft\\_HMG\\_response\\_to\\_McLean\\_Cross-Cutting\\_Base\\_-\\_November\\_2023\\_PDF.pdf](https://assets.publishing.service.gov.uk/media/655cd137544aea0019fb31e4/_8243__Government_Response_Draft_HMG_response_to_McLean_Cross-Cutting_Base_-_November_2023_PDF.pdf)

<sup>11</sup> <https://www.gov.uk/cma-cases/road-fuel-market-study>

<sup>12</sup> <https://icebreakerone.org/perseus/>

<sup>13</sup>

<https://www.grandviewresearch.com/industry-analysis/cultured-meat-market-report#:~:text=The%20global%20cultured%20meat%20market,51.6%25%20from%202023%20to%202030>

In June 2023 Deloitte undertook a review of the novel foods authorisation process for the FSA.<sup>14</sup> This report included several good recommendations that included:

- Increased resourcing of the FSA to facilitate more horizon scanning and early engagement
- Empower the FSA to give early pre submission consultation with companies as done in other jurisdictions (USA, Singapore, Israel and Australia)
- Clearer application guidelines
- Aligning food safety standards with peer nations - this could enable the ‘passporting’ of permissions obtained in other countries designated as having a food safety regime on par with the UK’s
- Clear timelines and performance standards
- Outcome-based regulation on food safety
- Publishing regulator’s assessments

Critically, we advocate that the FSA advance with these recommendations as a matter of priority: the speed and competitiveness of the sector means that firms could leave the UK in the short-mid term if no action is taken. While it was helpful of the FSA to publish clear guidance on novel food tasting trials in November 2023, there remains much room for improvement elsewhere.<sup>15</sup>

Finally, the best policy would be to streamline the novel foods application process, which is something we can now do post-Brexit. We have not yet adjusted the legislative timeline to approve a novel food application since leaving the EU. This timeline includes stages that are permitted to take months to accommodate approvals in every member state - it is ludicrous that this remains the case when we are now outside of the EU.

## AI-1d Macdonald Had a Farm

### **Policy Ask 12: Agricultural Autonomous Robots Regulations Reform**

One of the “Brexit Opportunities” identified in our December 2022 report was reform of the regulations overseeing the use of robotics in agriculture. Indeed, the need for “moonshot” innovation was included as

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<sup>14</sup>

<https://www.food.gov.uk/research/novel-and-non-traditional-foods-additives-and-processes/novel-foods-regulatory-framework-review-executive-summary>

<sup>15</sup> <https://www.food.gov.uk/business-guidance/cell-cultivated-products#novel-food-tasting-trials>

a key recommendation in the Independent Review into Labour Shortages in the Food Supply Chain, conducted by John Shropshire OBE and published in June 2023.<sup>16</sup>

Whilst reform of specific regulations remains to be done, there are clear signs that officials are moving forward in this area. In October 2023, the Regulatory Horizons Council conducted a policy sprint on “Unlocking the Potential of Robotics and Autonomous Systems (RAS) in Agriculture and Horticulture”. The need for regulatory refresh featured heavily, but another possible intervention identified was “establishing regulatory sandboxes for robotics and autonomous Systems in agriculture and horticulture”.<sup>17</sup> Further, in her “Pro-Innovation Regulation of Technologies Review: Advanced Manufacturing”, published in November 2023, the Government’s Chief Scientific Advisor Professor Dame Angela McLean recommended that the government should “review the Supply of Machinery (Safety) Regulations 2008... with the aim of putting in place an up to date, proportionate regulatory regime that supports early-stage innovation and automation in agriculture.”<sup>18</sup> We agree.

We will engage with Defra on these plans as they take shape.

## **Policy Ask 27: Reinstate ELMS & Incentivise Innovation Adoption**

We spoke to a range of agtech firms in 2022 and there was a general consensus that ELMS offers a positive step forward in driving sustainable land use, but there was concern that it missed a trick in ensuring that productivity and food security could be maximised through the adoption of technology.

The Farming Innovation Programme is the main vehicle used by the Government to support investment in conventional agriculture but over the last twelve months we’ve seen a range of measures taken to incentivise farmers to adopt technology, and mitigate the associated cost and risk exposure:

- In May 2023, the Prime Minister and then Environment Secretary Thérèse Coffey hosted 70 businesses at Downing Street for the UK Farm to Fork Summit. Heralded as an early anniversary event following the 2022 Food Strategy, the summit aimed to discuss ways to accelerate sustainability in farming, whilst also seeking to produce 60% of our food domestically.<sup>19</sup> Measures announced included: £12.5 million in additional funding for environmental sustainability and resilience on farms, up to £30 million to unlock the potential of precision breeding, and plans to investigate the energy needs of controlled environment agriculture (CEA) as part of a consultation on Phase 3 of the Industrial Energy Transformation Fund.

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<sup>16</sup>

[https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/1166600/Independent\\_Review\\_into\\_Labour\\_Shortages\\_in\\_the\\_Food\\_Supply\\_Chain\\_June\\_2023.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1166600/Independent_Review_into_Labour_Shortages_in_the_Food_Supply_Chain_June_2023.pdf)

<sup>17</sup>

<https://assets.publishing.service.gov.uk/media/6526d4ed244f8e000d8e7441/unlocking-potential-of-robotics-and-autonomous-systems-in-agriculture-and-horticulture.pdf>

<sup>18</sup>

[https://assets.publishing.service.gov.uk/media/65562168046ed4000d8b9a38/Annex\\_A\\_GCSA\\_to\\_CX\\_-\\_Advanced\\_Manufacturing\\_Report\\_-\\_Pro-Innovation\\_Regulation\\_of\\_Technologies\\_-\\_FINAL\\_15\\_Nov.pdf](https://assets.publishing.service.gov.uk/media/65562168046ed4000d8b9a38/Annex_A_GCSA_to_CX_-_Advanced_Manufacturing_Report_-_Pro-Innovation_Regulation_of_Technologies_-_FINAL_15_Nov.pdf)

<sup>19</sup>

<https://www.gov.uk/government/publications/outcomes-from-the-uk-farm-to-fork-summit/an-update-following-the-uk-farm-to-fork-summit-held-at-10-downing-street-on-16-may-2023>

- In June 2023, Defra launched the latest round of the Farming Equipment and Technology Fund, with £31m made available for farmers to invest in technology to boost sustainable food production and reduce emissions and waste.<sup>20</sup>
- In July 2023, Defra also launched the £5m Farming Innovation Investor Partnership Competition to enable small and medium sized farming businesses to scale up R&D through blended public/private financing.<sup>21</sup>
- In August two new research and feasibility competitions worth £14m opened under the Farming Innovation Programme.<sup>22</sup>
- To coincide with Back British Farming Day in September 2023, then Environment Secretary Thérèse Coffey and Farming Minister Mark Spencer announced funding to incentivise the adoption of technology.<sup>23</sup> Specifically, £30m of funding to invest in automated, robotic and solar technologies, which will complement the existing Sustainable Farming Incentive (SFI).

There remains a lack of joined up thinking, however. There is work to do to ensure that sustainability, food security and innovation are embedded and interlinked within the Government's strategy. For instance, over the Summer of 2023, Defra consulted on easing the planning burden on farms seeking to diversify the building-footprint on their farm, in a move we can almost directly attribute to Amazon Original show Clarkson's Farm. This was a missed opportunity to also consider barriers to changing buildings to intensive controlled environment agriculture or fermentation. Planning can be one of the key barriers to the adoption of these technologies. We urge the Government to take a more holistic approach to its interventions to ensure technological innovation remains central.

## Green Hydrogen

### Policy Ask 18: A CfD Regime for Green Hydrogen

There has been progress made over the last twelve months to build the market and infrastructure for Green Hydrogen. Whilst the Government has moved away from the Contracts for Difference construct, it has deployed funding through its £240 million Net Zero Hydrogen Fund, and will shortly announce the winners of the second electrolytic hydrogen allocation round. Alongside, the Government published its "UK Low Carbon Hydrogen Standard" in April 2023.

Critically, the Government needs to be clearer on the role of hydrogen. For example, in her "Pro-Innovation Regulation of Technologies Review: Advanced Manufacturing", Professor Dame Angela

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<sup>20</sup> <https://www.gov.uk/government/news/over-30m-for-new-equipment-to-boost-sustainable-food-production>

<sup>21</sup> <https://www.gov.uk/government/news/5-million-competition-set-to-scale-up-agricultural-innovation>

<sup>22</sup> <https://www.gov.uk/government/news/14-million-to-unlock-agricultural-innovation>

<sup>23</sup> <https://www.gov.uk/government/news/plan-to-boost-british-produce-on-back-british-farming-day>

McLean recommended that a forthcoming Government strategy on decarbonising non-road mobile machinery should examine the role of hydrogen combustion.<sup>24</sup>

## Useful Crap

### **Policy Ask 21: Introduce a Sandbox for Innovative Use of Waste Products**

In March 2023, then Chief Scientific Adviser to the Government Patrick Vallance undertook a series of reviews into how pro-innovation regulation can unlock technology, including a dedicated focus on green industries.<sup>25</sup> His ninth recommendation in this report was that “the government should support the Environment Agency, other regulators and standards bodies, research institutions and a chosen local authority to establish a regulatory sandbox for the innovative use of waste products.” This was very similar to our recommendation that the Government should look to introduce a sandbox for the innovative use of waste products.

Whilst the Green Day announcements later in March 2023 did not include an abundance of good news for ClimateTechs, there was a surprise in the Government’s response to this recommendation, as they agreed that “there is merit in establishing a regulatory sandbox for the innovative use of waste products.”<sup>26</sup> We believe that this concept should be twinned with the recommendation in Professor Dame Angela McLean’s “Pro-Innovation Regulation of Technologies Review: Advanced Manufacturing” that the government should work with stakeholders on cultivating the circular economy.<sup>27</sup>

We have not seen this progress but will be working with Defra over the next few months to understand what progress could be made in defining the scope of such a sandbox.

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<sup>24</sup>

[https://assets.publishing.service.gov.uk/media/65562168046ed400d8b9a38/Annex\\_A\\_GCSA\\_to\\_CX\\_-\\_Advanced\\_Manufacturing\\_Report\\_-\\_Pro-Innovation\\_Regulation\\_of\\_Technologies\\_-\\_FINAL\\_15\\_Nov.pdf](https://assets.publishing.service.gov.uk/media/65562168046ed400d8b9a38/Annex_A_GCSA_to_CX_-_Advanced_Manufacturing_Report_-_Pro-Innovation_Regulation_of_Technologies_-_FINAL_15_Nov.pdf)

<sup>25</sup>

[https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/1147441/Pro-Innovation\\_Regulation\\_of\\_Technologies\\_Review\\_-\\_Green\\_Industries\\_FINAL.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1147441/Pro-Innovation_Regulation_of_Technologies_Review_-_Green_Industries_FINAL.pdf)

<sup>26</sup>

[https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/1147440/HM\\_Government\\_Response\\_to\\_Sir\\_Patrick\\_Vallance\\_s\\_Pro-Innovation\\_Regulation\\_of\\_Technologies\\_Review\\_FINAL\\_FINAL.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1147440/HM_Government_Response_to_Sir_Patrick_Vallance_s_Pro-Innovation_Regulation_of_Technologies_Review_FINAL_FINAL.pdf)

<sup>27</sup>

[https://assets.publishing.service.gov.uk/media/65562168046ed400d8b9a38/Annex\\_A\\_GCSA\\_to\\_CX\\_-\\_Advanced\\_Manufacturing\\_Report\\_-\\_Pro-Innovation\\_Regulation\\_of\\_Technologies\\_-\\_FINAL\\_15\\_Nov.pdf](https://assets.publishing.service.gov.uk/media/65562168046ed400d8b9a38/Annex_A_GCSA_to_CX_-_Advanced_Manufacturing_Report_-_Pro-Innovation_Regulation_of_Technologies_-_FINAL_15_Nov.pdf)

# Counting Carbon

## **Policy Ask 24: Carbon Accounting Standards**

## **Policy Ask 25: Call for Evidence on Data for Carbon Accounting**

We heard loud and clear from carbon accounting startups last year that there were multiple opportunities for the Government to support guiding best practice in the sector. In the twelve months since we published our report, there have been tentative, but positive steps, including the ongoing call for evidence on Scope 3 emissions which closes in early December 2023.<sup>28</sup> This consultation aims to understand the merits and complexity of expanding current reporting requirements beyond Scopes 1 and 2, currently required under the Streamlined Energy and Carbon Reporting (SECR) regulations.

Startup Coalition launched the Carbon Markets Innovation Forum (CMIF) in October 2023, with the goal of supporting startups in the broader carbon markets sector to feed into Government policymaking, including in carbon accounting.<sup>29</sup> To this end, efforts like the Scope 3 emissions consultation help to demonstrate how the Government is thinking about disclosures.

## **Policy Ask 26: Subsidise Access to Decarbonisation Tools**

Our recommendation for the Government to support access to carbon accounting software was supported in Chris Skidmore MP's Independent Review of Net Zero, but the Government has so far chosen not to use a Help to Grow style voucher system, or a tax credit, to incentivise uptake of these tools. Instead, in August 2023, DESNZ launched an upgraded UK Business Climate Hub to better support small businesses that want to take action to quantify and reduce their environmental impact.<sup>30</sup> The service is run by the Broadway Initiative and includes a free carbon calculator and a suite of tools and advice. In our December 2022 report we critiqued the SME Climate Hub for failing to account for the time and knowledge restraints of the average small business, and, unfortunately, version two leaves a lot to be desired.

We look forward to working with the Government off the back of the Scope 3 Emissions Consultation to ensure they line up the ambition of their policy with supporting small and medium sized businesses.

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<sup>28</sup>

<https://assets.publishing.service.gov.uk/media/652ea475697260000dccb9db/scope-3-emissions-in-the-uk-reporting-landscape.pdf>

<sup>29</sup> [www.cmif.co.uk](http://www.cmif.co.uk)

<sup>30</sup> <https://www.gov.uk/government/news/one-stop-shop-to-help-businesses-save-money-and-go-green>



# More to Do

## Lacking Spark

### **Policy Ask 4: Introduce an “Innovation Pot” into the CfD regime**

In July 2023, the Government responded to its consultation on policy considerations for future rounds of the Contracts for Difference (CfD) scheme which it conducted over the Winter of 2022/23. The consultation did not entertain the concept of an “innovation pot”.

Positively, September 2023’s fifth allocation round of the CfD regime included funding for geothermal generation for the first time, and record amounts of tidal energy were included, thanks to ringfenced funds. However, no offshore wind projects were granted funding due to the low strike-price making it uneconomical.

The CfD regime has been a huge success in increasing the supply of renewable energy into the UK grid, but it must adjust to changing market dynamics. Part of enabling this, in our view, could be the introduction of an innovation pot, to enable very early stage producers to get a commercial foothold.

## Building the Carbon Market

### **Policy Ask 8: Deliver the Rec’s of the MRV of GHG Removals Task and Finish Group**

### **Policy Ask 9: Take Actions to Establish a Market for GHG Removal**

### **Policy Ask 22: Introduce an Office for Carbon Removal**

### **Policy Ask 28: Incorporate Nature Based Solutions into the UK Emissions Trading Scheme**

Beyond carbon accounting, we heard extensively from startups engaged in the broader carbon market that they needed action from the government to build the necessary physical and regulatory infrastructure for a world-leading carbon market, and also for solutions to create revenue streams for GHG removal.

Clarity from the UK Government in this space is additionally important as other countries are not standing still. Under the US Inflation Reduction Act, introduced in August 2022, the generosity of tax credits for GHG storage increased significantly: the credit for CO<sub>2</sub> used in enhanced oil recovery or other industrial processes increased from \$35/metric ton to \$60/mt, and the credit for permanently stored CO<sub>2</sub> increased from \$50/mt to \$85/mt. In contrast, there is no equivalent subsidy in the UK. Indeed, at a dinner with policymakers in April 2023, members of the ClimateTech Policy Coalition heard one GGR

startup founder explicitly state that this disparity meant they were seriously considering relocating across the pond.

There have been some tentative steps taken to build the market for GHG removal in the UK. In June 2023, DESNZ released its response to its consultation on a Greenhouse Gas Removal (GGR) Business Model, concluding that a business model based on Contracts for Difference would make the most sense.<sup>31</sup> The Government also confirmed in their response that they planned to consider options for integrating GHG removal into the UK ETS, subject to conditions like robust monitoring, reporting and verification (MRV).

In July 2023, the UK Emissions Trading Scheme Authority (UK ETS), a body composed of the UK Government, Scottish Government, Welsh Government and the Department of Agriculture, Environment and Rural Affairs in Northern Ireland, published plans outlining the future development of the ETS over the coming years.<sup>32</sup> In tandem the Government's response to the consultation on the future of the ETS revealed that it plans to expand the scheme to include engineered GHG removal in the future, and to consult on expanding the scheme to incorporate high quality nature-based removals.<sup>33</sup>

Delivering a consultation on the role of the Voluntary Carbon Market should be a priority. Not only is it the first step in instigating a vital revenue stream for UK based GHG removal firms, including engineered and nature-based methods, but it would also include measures to increase the quality and integrity of the voluntary carbon market (VCM). Startup Coalition's Carbon Markets Innovation Forum exists to ensure that the innovative sector can feed into these plans, but it appears that the consultation has been shelved for the time being, having originally been expected in Q4 2023.

## Sent Packing

### **Policy Ask 19: Standardisation & Labelling for Compostable Materials**

### **Policy Ask 20: Integrate Innovative Packaging Materials and Reuse into Government Strategy**

In its response to its consultation on "Extended Producer Responsibility for Packaging" published in March 2022, the UK Government confirmed plans for all packaging, excluding plastic, to have a "recycle" or a "do not recycle" label mandated by the end of March 2026.<sup>34</sup> Unfortunately, in the year since our December 2022 report flagged specific issues around compostable packaging, we have seen no specific

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<sup>31</sup>

[https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/1164975/engineered-ggrs-government-response.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1164975/engineered-ggrs-government-response.pdf)

<sup>32</sup>

<https://www.gov.uk/government/news/tighter-limit-on-industrial-power-and-aviation-emissions-as-uk-leads-the-way-to-net-zero>

<sup>33</sup>

[https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/1166812/uk-emissions-trading-scheme-consultation-government-response.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1166812/uk-emissions-trading-scheme-consultation-government-response.pdf)

<sup>34</sup>

[https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/1063589/epr-consultation-government-response.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1063589/epr-consultation-government-response.pdf)



progress in this space. Meanwhile, we *have* seen linked regulatory efforts to promote standardisation and sustainability in packaging delayed, including the Extended Producer Responsibility scheme, which was deferred a year to 2025.

While there was positive news announced in January 2023 that the Government intends to introduce a new Deposit Return Scheme from 2025, we have not seen this fleshed out in detail.<sup>35</sup> Meanwhile, the Scottish scheme ran into trouble.<sup>36</sup> Indeed, there has been a lack of progress in efforts to promote innovative packaging materials and reuse across the board.

Additionally, Startup Coalition hosted a roundtable discussion with Defra in April 2023 in which multiple packaging startups raised the issue of the poor definition of “plastic” being used to underpin the plastic packaging tax. The definition was inherited from the EU and is very ambiguous in defining the “main structural component” of packaging, which enables packaging with synthetic coatings to be exempt if they are not interpreted as “structural”. This loophole means that truly innovative, non-plastic alternatives, such as plant-based polymers, are at a disadvantage.

Despite all of the frustrations above, in October 2023 the Government announced that it planned to standardise recyclable waste streams across England by the end of March 2026. If enacted this would be a critical foundation to reduce contamination and maximise recycling. Crucially, we contend that to operationalise this, the Government should look to the cutting-edge technologies being developed by UK startups, including those using AI to efficiently sort through household waste.

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<sup>35</sup> <https://www.gov.uk/government/news/deposit-return-scheme-for-drinks-containers-moves-a-step-closer>

<sup>36</sup> <https://www.bbc.co.uk/news/uk-scotland-64624421>

# Nothing to See Here

## Hungry for More

### **Policy Ask 11: Reform Food Labelling**

In our roundtable discussions conducted over the Summer of 2022 with ClimateTech founders, the theme of food labelling came up frequently, not least as part of efforts to reduce food waste. We called for a call for evidence on the appropriateness of labelling as a start and this has not been forthcoming. Meanwhile, industry continues to lead the way, with high-street retailer Marks & Spencer replacing “use-by” dates with “best-before” dates on milk to reduce waste.<sup>37</sup>

During our roundtables we also discussed the concept of ecolabels, which would support consumers to make informed decisions when comparing products. In his Independent Review of Net Zero, Chris Skidmore MP called for the Government to “pursue ecolabelling by 2025”, and the Government confirmed in its “Net Zero Growth Plan”, published on Green Day in March 2023, that it intends to “develop a mandatory methodology for voluntary food ecolabelling”.<sup>38</sup> The Government launched the Food Data Transparency Partnership in February 2023, with ambitions to consult on mandatory reporting for ecolabelling before the end of 2023.<sup>39</sup> At the time of writing it does not look likely that this consultation will land until at least 2024.

## Build Different

Reducing the emissions of the Built Environment is one of the most important challenges facing governments around the world and ensuring that standards and schemes function effectively is vital. In our December 2022 report we outlined three actions that we contended would meaningfully reduce emissions in the Built Environment, whilst also ensuring that innovative technology is harnessed and accessible to all consumers.

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<sup>37</sup> <https://www.bbc.co.uk/news/business-65704475>

<sup>38</sup>

[https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/1147457/powerin-g-up-britain-net-zero-growth-plan.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1147457/powerin-g-up-britain-net-zero-growth-plan.pdf)

<sup>39</sup>

[https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/1185339/Eco\\_Working\\_Group\\_Terms\\_of\\_Reference.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1185339/Eco_Working_Group_Terms_of_Reference.pdf)

### Policy Ask 13: Replace EPCs

Firstly, Founders told us that EPCs were not “worth the paper they’re written on”. Consequently, it is important to replace EPCs with metrics that more accurately reflect the energy efficiency of a structure, and also incentivise investment in measures that have optimum impact. This recommendation was echoed by Chris Skidmore MP in his Review - he called for the Government to “create a clearer, more accessible Net Zero Performance Certificate (NZPC)”. Meanwhile the Climate Change Committee has also stated that “EPC ratings are poorly aligned with Net Zero and are in urgent need of reform”.<sup>40</sup>

In response to the Climate Change Committee’s 2022 report, the UK Government said that it was “overhauling the building physics model underpinning EPCs to make it fit for purpose to support net zero” and that they aimed “to consult on this new model later in 2023.”<sup>41</sup>

**No consultation on reform of EPCs has arrived from the UK Government and the subject was not entertained in the “Net Zero Growth Plan” published on Green Day in March 2023.**

Meanwhile, the Scottish Government launched its own consultation on EPC reform in July 2023.<sup>42</sup> In this consultation, the Scottish Government sought to integrate feedback from the Climate Change Committee that the EPC rating should comprise of four metrics: energy use intensity, space heating demand (“fabric intensity”), the heating system type, and energy cost intensity.<sup>43</sup> The Scottish Government’s proposed approach is to continue to use an A-G scale and a 1-100 rating for each for comparison.<sup>44</sup>

Startup Coalition has joined Bankers for Net Zero’s forthcoming work focusing on EPC reform.

### Policy Ask 14: Make Funding Under the ECO more Accessible

Last year we also heard from founders producing novel hardware to be deployed in retrofit schemes. On the face of it, the UK Government has taken action this year to accelerate domestic retrofitting, not least through the GB Insulation scheme, one of the flagship announcements made at Green Day in March 2023. Unfortunately, a critical gap remains for some innovative startups in the sector: in order for vendors of cutting-edge technologies to offer their products under schemes funded through taxation or energy bill levies, including the Energy Company Obligation, the Social Housing Decarbonisation Fund and Home Upgrade Grant, the PAS 2035 standard requires that they must be installed to a set of requirements for that technology’s “measure type”.

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<sup>40</sup>

<https://www.theccc.org.uk/wp-content/uploads/2023/06/Progress-in-reducing-UK-emissions-2023-Report-to-Parliament-1.pdf>

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[https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/1147368/govt-response-ccc-annual-progress-report-recommendations.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1147368/govt-response-ccc-annual-progress-report-recommendations.pdf)

<sup>42</sup> <https://www.gov.scot/publications/energy-performance-certificate-epc-reform-consultation/>

<sup>43</sup>

<https://www.theccc.org.uk/wp-content/uploads/2023/02/CCC-Letter-Reform-of-domestic-EPC-rating-metrics-to-Lee-Rowley-MP.pdf>

<sup>44</sup> <https://www.gov.scot/publications/energy-performance-certificate-epc-reform-consultation/pages/5/>

For firms that provide new technologies, there is no “measure type” to adhere to, and consequently they are locked out of the scheme. Firms also face a near insurmountable challenge identifying the right decision maker to change this, with multiple actors unable or not willing to claim ownership, including the BSI, Trustmark, Ofgem and central government. Summing up the challenge of innovators providing their services through Government schemes, in our more recent engagements one innovator told us that there is a lack of sticks and that the carrots are nearly impossible to access.

Over the last twelve months, Startup Coalition has encountered a growing number of startups impacted by this issue. Creating a process for new technologies to gain approval for inclusion under Government retrofit schemes would accelerate decarbonisation, whilst also turbocharging the growth of the startups offering the technology. This would also support with meeting Professor Dame Angela McLean’s call in her “Pro-Innovation Regulation of Technologies Review: Advanced Manufacturing” for “greater testing and piloting of innovative solutions in the built environment”.<sup>45</sup>

### **Policy Ask 15: Pass the Carbon Emissions Building Bill**

No progress has been made to progress this Private Members’ Bill, and it is not a Government priority.

## On Ya (e-)Bike

### **Policy Ask 16: Pass the Transport Bill & Introduce the LZEV Category**

In our December 2022 report, we recommended that the Government advance with plans to legislate for a new transport category in its Transport Bill, which was promised in the 2022 Queen’s Speech. The LZEV category would specifically give certainty to e-scooters. The Climate Change Committee has also called on the Government to “set out a role for these vehicles, alongside e-bikes and bike/scooter sharing schemes, in delivering sustainable local transport systems.”<sup>46</sup>

The Transport Bill never came, and has subsequently been broken up into multiple parts in the 2023 King’s Speech, including an Automated Vehicle Bill and a separate draft Bill on railway reform, leaving the LZEV category out in the cold.<sup>47</sup> We urge the Government to provide certainty to this sector soon, particularly as evidence from trials, published by the Government in December 2022, found that the proportion of e-scooter users who reported replacing car journeys with e-scooter use rose from 12% to 21% during the trial period.<sup>48</sup>

<sup>45</sup>

[https://assets.publishing.service.gov.uk/media/65562168046ed4000d8b9a38/Annex\\_A\\_GCSA\\_to\\_CX\\_-\\_Advanced\\_Manufacturing\\_Report\\_-\\_Pro-Innovation\\_Regulation\\_of\\_Technologies\\_-\\_FINAL\\_15\\_Nov.pdf](https://assets.publishing.service.gov.uk/media/65562168046ed4000d8b9a38/Annex_A_GCSA_to_CX_-_Advanced_Manufacturing_Report_-_Pro-Innovation_Regulation_of_Technologies_-_FINAL_15_Nov.pdf)

<sup>46</sup>

[https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/1147368/govt-reponse-ccc-annual-progress-report-recommendations.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1147368/govt-reponse-ccc-annual-progress-report-recommendations.pdf)

<sup>47</sup>

[https://assets.publishing.service.gov.uk/media/654a21952f045e001214dcd7/The\\_King\\_s\\_Speech\\_background\\_briefing\\_notes.pdf](https://assets.publishing.service.gov.uk/media/654a21952f045e001214dcd7/The_King_s_Speech_background_briefing_notes.pdf)

<sup>48</sup> <https://www.gov.uk/government/publications/national-evaluation-of-e-scooter-trials-report>

## Policy Ask 17: Nationwide Low-carbon Mobility Sandboxes

We spoke to a number of highly innovative transport firms as part of our roundtables last year, including those looking to truly transform mobility and freight transport in the UK. One of the suggestions we included was for the introduction of “low-carbon mobility sandboxes”, utilising the concept of controlled, time-limited environments for innovation.

Helpfully, the e-scooter trials across the UK offer a model for how this could work going forward. Additionally, there could be a role for the Advanced Propulsion Centre in directing the strategy for testing new transport modes as they become available.

Additionally, in her “Pro-Innovation Regulation of Technologies Review: Advanced Manufacturing”, published in November 2023, Professor Dame Angela McLean recommended evolving the regulatory framework to enable the safe testing of electric Vertical Take-off and Landing (eVTOL) aircraft.<sup>49</sup> This is another illustration of where the UK Government needs to build the foundations for novel transport technologies.

## Government Spending

### Policy Ask 23: Increase Government Procurement of Low Carbon Materials

Whilst it was explicitly raised as part of our roundtable focusing on industrial decarbonisation, the concept of the Government using its strategic buying power to build demand for low-carbon products and services applies across the economy. Importantly, through “Action Note PPN 06/21”, introduced in June 2021, the Government does require that bidders for large government contracts “provide a Carbon Reduction Plan ... confirming the supplier’s commitment to achieving Net Zero by 2050 in the UK, and setting out the environmental management measures that they have in place and which will be in effect and utilised during the performance of the contract.”<sup>50</sup> Importantly, this note only applies to contracts worth in excess of £5m.

Unfortunately, the Procurement Bill, which gained Royal Assent in October 2023, did not mention the UK’s climate ambitions once, despite the Climate Change Committee suggesting that the Government should “capitalise on the significant potential for Government to drive delivery of Net Zero, extending

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<sup>49</sup>

[https://assets.publishing.service.gov.uk/media/65562168046ed4000d8b9a38/Annex\\_A\\_GCSA\\_to\\_CX\\_-\\_Advanced\\_Manufacturing\\_Report\\_-\\_Pro-Innovation\\_Regulation\\_of\\_Technologies\\_-\\_FINAL\\_15\\_Nov.pdf](https://assets.publishing.service.gov.uk/media/65562168046ed4000d8b9a38/Annex_A_GCSA_to_CX_-_Advanced_Manufacturing_Report_-_Pro-Innovation_Regulation_of_Technologies_-_FINAL_15_Nov.pdf)

<sup>50</sup>

[https://assets.publishing.service.gov.uk/media/62066d5ae90e077f7dec749e/PPN-0621-Taking-account-of-Carbon-Reduction-Plans-Jan22\\_\\_1\\_.pdf](https://assets.publishing.service.gov.uk/media/62066d5ae90e077f7dec749e/PPN-0621-Taking-account-of-Carbon-Reduction-Plans-Jan22__1_.pdf)

coverage of climate-related procurement requirements and tracking the emissions performance of suppliers and contracts”.<sup>51</sup>

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<https://www.theccc.org.uk/wp-content/uploads/2023/06/Progress-in-reducing-UK-emissions-2023-Report-to-Parliament-1.pdf>