The Power of Partnership

Unlocking business action on Net Zero

A report prepared by the Advisory Business Group for the UK's Climate Change Committee

Chaired by Shevaun Haviland
June 2023

Background and purpose of this report

In the Autumn of 2022, the Climate Change Committee[i] – the UK's statutory independent advisor on climate change - convened an 'Advisory Group on Business' (AGB), comprised of senior leaders from a range of sectors, regions, and experience across the UK.

The AGB was convened to share insights from their respective fields around the different ways in which UK businesses can accelerate progress towards Net Zero, the barriers holding this back, and the opportunities that can be unlocked if business and Government take decisive action. These insights are intended to inform a forthcoming report from the CCC on business action on climate change but are also presented by the AGB to businesses, policymakers, and political parties as a 'manifesto' for strengthening business action on Net Zero.

The scope of this work focuses primarily on the business response to Net Zero; however, the AGB recognised that action on Net Zero should be considered as part of a step-change in the business response to climate, environmental and social challenges the world faces, noting the particular importance of adaptation, nature, and biodiversity and just transition. It is anticipated that the lessons and principles drawn from the AGB are also relevant and useful in considering how to strengthen the business response across these issues.

This paper summarises the insights developed from the AGB over four discussions. The views and case studies presented are that of the members of the Advisory Group on Business and not necessarily that of the Climate Change Committee.

Advisory Business Group Chair

Shevaun Haviland, *Director General of the British Chambers of Commerce*

Shevaun became Director General of BCC at the end of April 2021. She joined BCC from the Cabinet Office where she led Business Partnerships. She joined the Government in 2016 and also ran the Business team at No10 Downing Street and the Inclusive Economy Partnership.

Shevaun started her career in consultancy in London and New York. She then moved to the Walt Disney Company in strategic planning, before joining Disneyland Paris, opening the second theme park. Shevaun then joined the agency world, running global accounts for Millward Brown, Mindshare, and WPP.

Following this, she became a partner in a start-up digital innovation agency and venture builder, Independents United, where she also became an Advisor for the Danson Foundation. Most recently, Shevaun was the New Ventures Director for Avado, building new businesses in Edtech and founding the Academy of Digital Business Leaders.

Shevaun has a passion for business as a force for good. She is a social impact investor, a Trustee of Barefoot College International, and a board member of the Women of the World Foundation.

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Executive Summary

ACHIEVING NET ZERO REQUIRES CHANGE IN ALL SECTORS

The UK is on the path to achieving Net Zero greenhouse gas emissions by 2050 – the target passed into law in 2019 to end the UK's contribution to climate change. Emissions have already been reduced by almost 50%, but the Net Zero pathway requires a 78% cut in emissions by 2035. Achieving Net Zero goes beyond the energy we produce – we'll need to reconfigure our transport systems, homes, businesses, and land, to change how we move people and goods, how we heat our buildings, and how (and what) we produce and consume.

THE NET ZERO TRANSITION WILL CREATE NEW OPPORTUNITIES

The prize of Net Zero is not just a cleaner and greener society, but also a more modern, more productive, more efficient, and more prosperous economy, compared to the potentially astronomical costs of inaction on climate[ii]. For business, acting on Net Zero means more than an exercise of ESG compliance - this is fundamentally about commercial competitiveness and positioning companies to seize the benefits that the transition will bring. For Government, this is about the UK's economic competitiveness in the global race to attract private investment and grow the industries of the future.

THE "FIVE I'S": A NEW FRAMEWORK FOR ACTION

In this paper we set out a new framework, the "Five I's", for business and Government to realise the full potential of Net Zero. Businesses and Governments can take responsibility and demonstrate integrity in their purpose and actions to reduce emissions. This informs smart investments which deliver bankable returns and emissions savings. Customers and suppliers in the public and private sector can implement Net Zero solutions through procurement and collaboration across supply chains, and develop the skilled industries and people to innovate and develop Net Zero technologies and products. Finally, business and Government can influence the consumer and public behaviours needed for these to be adopted at scale.

PARTNERSHIP AND TRANSFORMATIVE ACTIONS

Taking each of the five "I's in turn, the report explores how to unlock the potential of business and Government partnership on the path to Net Zero. We summarise key drivers of action raised by AGB members, such as ethical factors, shareholder pressure, and taking advantage of future low-carbon technology opportunities. We also explore some of the barriers, including a lack of enabling infrastructure, uncertainty over policy, or lack of finance.

The report then suggests actions for businesses and policymakers informed by the experiences of the AGB members, including a set of transformative actions to maximise progress, and a cross-cutting action to create new Government-business Net Zero partnerships to accelerate progress. These recommendations are accompanied by case studies from AGB members to shed further light on the barriers and to showcase solutions. We believe the recommendations represent a strong business offer and readiness to act, provided the right policy framework is in place.

WE CALL ON THE BUSINESS COMMUNITY AND GOVERNMENT TO JOINTLY REFLECT ON THESE PROPOSALS, SUPPORT AND IMPLEMENT THEM, AND WORK TOGETHER FOR A NET ZERO FUTURE.

Summary of the Five I's (Integrity, Investment, Implementing, Innovative, Influence) and recommendations for businesses and Government

CROSS CUTTING RECOMMENDATION: ESTABLISH GOVERNMENT-BUSINESS NET-ZERO PARTNERSHIPS

DESNZ and Cabinet Office: Set up a transparent and collaborative Net Zero partnership programme with business, focused on accelerating the uptake and delivery of Net Zero solutions.

Businesses: Collaborate transparently with Government and competitors to solve shared Net Zero challenges

1 INTEGRITY AND TRANSPARENCY OF IMPACT AND ACTIONS

BENCHMARK FOR BUSINESS	ACTION FOR GOVERNMENT	TRANSFORMATIVE ACTION
(B1) Large Businesses Measure and disclose emissions in their value chains (supporting smaller suppliers to provide necessary information).	**(G1) DESNZ** Set clear, consistent proportional requirements for large companies to measure and disclose Scope 3 emissions (with voluntary reporting for SMEs).	**(T1) Introduce a Net Zero test** Businesses and Government (Cabinet Office/ Number 10) should signal their commitment to Net Zero by placing a test on major investments, spending, policies, strategies and performance.
(B2) All businesses: Set ambitious, science-based targets and KPIs to reduce emissions, and integrate these within performance appraisals.	**(G2) DESNZ** Establish a set of robust, practical definitions and certifications of Net Zero target/pledges for UK businesses to adopt on a voluntary basis – directing business to certification schemes which meet the UK definition.	
(B3) All businesses Develop appropriate plans to reduce emissions and deliver targets, and integrate these within core business strategies.	**(G3) DESNZ** Implement the Transition Plan Taskforce standard for larger private and listed companies and provide suitable guidance to businesses to report effectively.	
(B4) All businesses Only use high-integrity carbon credits where direct emissions reduction are not yet viable.	**(G4) DESNZ** Introduce clear guidance and, if necessary, regulation to encourage the appropriate use of carbon credits in line with CCC advice.	

2 INVESTMENT INTO NET ZERO SOLUTIONS

BENCHMARK FOR BUSINESS	ACTION FOR GOVERNMENT	TRANSFORMATIVE ACTION
(B5) Large companies and investors Shift and scale investments into viable low-carbon sectors, products and technologies.	**(G5) DESNZ and HMT** Work with industry specialists to co-develop technology route maps and implement an internationally compatible Green Taxonomy to signpost investors towards low-carbon investment opportunities.	**(T2) Reforms to tax and finance** HMT: To unlock the potential of the UK's financial sector and business investment behind Net Zero, the Government should implement targeted reforms to the tax incentives, capital allowances and lending criteria, as part of a renewed Net Zero industrial strategy **Private investors and financial institutions:** Stand ready to leverage their balance sheets to significantly scale investments into Net Zero sectors and technologies.
(B6) All businesses Increasingly invest in low-carbon solutions as part of asset replacement or upgrade cycles.	**(G6) DESNZ and HMT** Ensure the balance of incentives encourages investments into low-carbon assets, and provide access to low-cost public backed loans and grants for SMEs to finance their Net Zero plans.	

3 IMPLEMENTING NET ZERO THROUGH SUPPLY CHAINS, PROCUREMENT, AND INFRASTRUCTURE

BENCHMARK FOR BUSINESS	ACTION FOR GOVERNMENT	TRANSFORMATIVE ACTION
(B7) All businesses Rapidly implement cost-effective Net Zero solutions within their operations.	**(G7) DESNZ and OFGEM** Accelerate the delivery of key Net Zero infrastructure and remove key barriers such as delays to the consenting process for Net Zero infrastructure or assets.	**(T3) Prioritise Net Zero within procurement** Cabinet Office: Further extend and strengthen requirements on climate change in the National Procurement Policy Statement.
(B8) Larger businesses and smaller businesses Collaborate to enable adoption of Net Zero solutions throughout supply chains.	**(G8) DESNZ** Significantly enhance provision of support to SMEs to access the resources and advice they need to understand and implement Net Zero solutions .	

4 INNOVATIVE INDUSTRIES AND WORKERS

BENCHMARK FOR BUSINESS	ACTION FOR GOVERNMENT	TRANSFORMATIVE ACTION
(B9) All businesses Direct their ingenuity and resources into solving key Net Zero challenges, with larger companies piloting emerging technologies.	**(G9) DESNZ and DSIT** Review the provision of funding and finance for Net Zero R&D, early and mid-stage innovation and late-stage commercialisation.	**(T4) Take a strategic approach to national innovation priorities** DESNZ and DSIT: Clarify a set of strategic national Net Zero innovation priorities where UK has a competitive advantage, and provide enhanced innovation funding, finance and supportive regulation to bring this forward at pace.
(B10) All businesses Actively consider future skills requirements in their sector and work with Government to inform and fund appropriate training and qualifications.	**(G10) DESNZ** Set out a plan to deliver the pipeline of skilled people needed to design, develop and deliver Net Zero solutions.	

5 INFLUENCE OF BUSINESS ON SOCIETY

BENCHMARK FOR BUSINESS	ACTION FOR GOVERNMENT	TRANSFORMATIVE ACTION
(B11) All businesses Channel consumer influence in support of Net Zero societal changes and technologies – helping to educate, encourage and enable the public.	**(G11) DESNZ and DCMS** Coordinate a long-term public engagement strategy for Net Zero in partnership with media and the business community.	**(T5)** Government and business work together to create compelling consumer offer on Net Zero, incentivising and empowering the public to adopt lower carbon lifestyles and products.
(B12) All Businesses Advocate for supportive regulation and policy to strengthen private sector action on Net Zero.	**(G12) DESNZ and DIT** Implement robust, effective regulation to bring slow-movers along and create a level playing field with our competitors at home and abroad.	

Introduction: The Five I's to unlock business action on Net Zero

The UK is on the path to achieve Net Zero greenhouse gas emissions by 2050 – the target passed into law in 2019 to end the UK's contribution to climate change, in line with the goals of the Paris Agreement. Emissions have already been reduced by almost 50%, at a faster rate than any other G7 country[iii], achieved largely through phasing out coal power almost entirely from our electricity system whilst becoming one of the largest producers of wind energy in the world[iv].

The path to Net Zero requires a 78% cut in emissions by 2035, which will involve more significant changes across every area of the economy. This goes beyond the energy we produce; we'll need to reconfigure our transport systems, homes, businesses, and land to change how we move people and goods, how we heat our buildings and how (and what) we produce and consume.

These changes will inevitably create winners and losers, which will require careful management, but the prize of Net Zero is not just a cleaner and greener society, but also a more modern, more productive, more efficient, and more prosperous economy. The recent review by Chris Skidmore reiterated the strong economic case for timely delivery of Net Zero[v], and this is before we consider the potentially astronomical costs of inaction on climate[vi].

For business, acting on Net Zero means more than an exercise of ESG compliance - this is fundamentally about commercial competitiveness and positioning companies to seize the benefits that the transition will bring. On top of a genuine desire to address societal issues, this includes opportunities to realise cost savings through operational efficiencies and responding to risks to profitability (e.g. stranded assets), through to tapping into new global markets for low-carbon products and services – worth an estimated £1trn to the UK by 2030[vii]. Action is not optional – the markets are shifting, many customers and investors are calling for us to act, and if we don't act then regulation will force us.

Business' role goes far beyond just reducing our own direct emissions. For example, large corporations can use procurement and investment to create demand for - and lower the cost of – low-carbon technologies; smaller businesses can design and deliver the Net Zero innovations that society needs; while businesses of all sizes can direct their business models and practices to enable and encourage consumers to adopt low-carbon lifestyles. More broadly, the private sector as a whole is expected to provide the majority of investment required to build the Net Zero economy[viii].

UK businesses have demonstrated clear intent - four in five FTSE100 and 40% of SMEs are committed to Net Zero; but it's not enough for us to set targets, we have to back these up with meaningful and effective plans and actions. Currently, only 5% of large companies have credible Net Zero plans in place[ix], and only 26% of SMEs have measured emissions[x], reflecting that business is on a journey and different businesses will be at different stages in their response to Net Zero, and reflecting the importance of decisive action from Government.

It will not be achieved overnight but for business it starts with strong leadership – by **taking responsibility for our impact, aligning our investment strategies, driving real change through our operations and supply chains** and **committing our ingenuity and expertise to scale up the adoption of new technologies and behaviours** throughout society.

Most business leaders want to do the right thing, they want to be part of the solution and not the problem; but the reality is that businesses need to be profitable in order to exist, and in some areas they lack the tools, resources or agency to enact change. That is why to fully unleash the power of British business in support of Net Zero, **businesses need Government to provide the right conditions and clear signals**.

This means **implementing coherent policies** – for example by granting planning consent to wind farms not coal mines; **removing barriers** – by providing access to finance, reliable information and modern infrastructure; **ensuring the right balance of incentives** are in place – for example to switch from gas to electricity and to sell electricity back to the grid; and **maintaining a level playing field** – by aligning regulation to support higher ambition. SMEs, in particular, need greater clarity on

future policies, expectations, and regulations, as well as support to make the transition. Anything less will see international investors looking elsewhere, leaving British businesses behind in the race to capitalise on new Net Zero markets and technologies, and leaving the UK facing a more expensive and disruptive transition.

Other major economies are moving quickly to gain a competitive advantage in the transition to Net Zero – we've seen the Inflation Reduction Act supercharge green investment in the US, and the EU have followed this with their own Green Industrial Plan[xi] while each year China ploughs $100bns into green technologies[xii]. Whilst the UK can't match the spending power of these economies, we need a more decisive response that leverages the UK's many strengths in key areas such as energy, finance, engineering, professional services, media, cutting edge manufacturing and research and development.

The Government's recent 'Green Day' announcements were a step in the right direction – in particular we welcome the updated Green Finance Strategy, plans to require large companies to produce transition plans and the forthcoming Green Taxonomy – but Government must be more ambitious, more flexible and more focused in its approach, if we are to see a step change in investment and private sector action, where both Government and private sector take responsibility for action.

It Is a pivotal moment for the UK to determine whether we can be a driver or a passenger in this global race to Net Zero. It's crucial that businesses understand the commercial opportunities on the path to 2050, and the role they can play, and we need a step-change in policy to enable, encourage and enforce the private sector's response. The 'Ambition Loop' framework, developed by the We Mean Business coalition and World Resources Institute, is a useful tool for conceptualising this potential positive feedback loop between bold policies that can drive private sector action (Figure 1).

Figure 1. The Ambition Loop. Credit: WRI, UN, We Mean Business Coalition

In this paper we set out our interpretation of the business side of the ambition loop, the Five I's, intended to serve as a manifesto for business and Government to realise the full potential Net Zero in the UK (Figure 2):

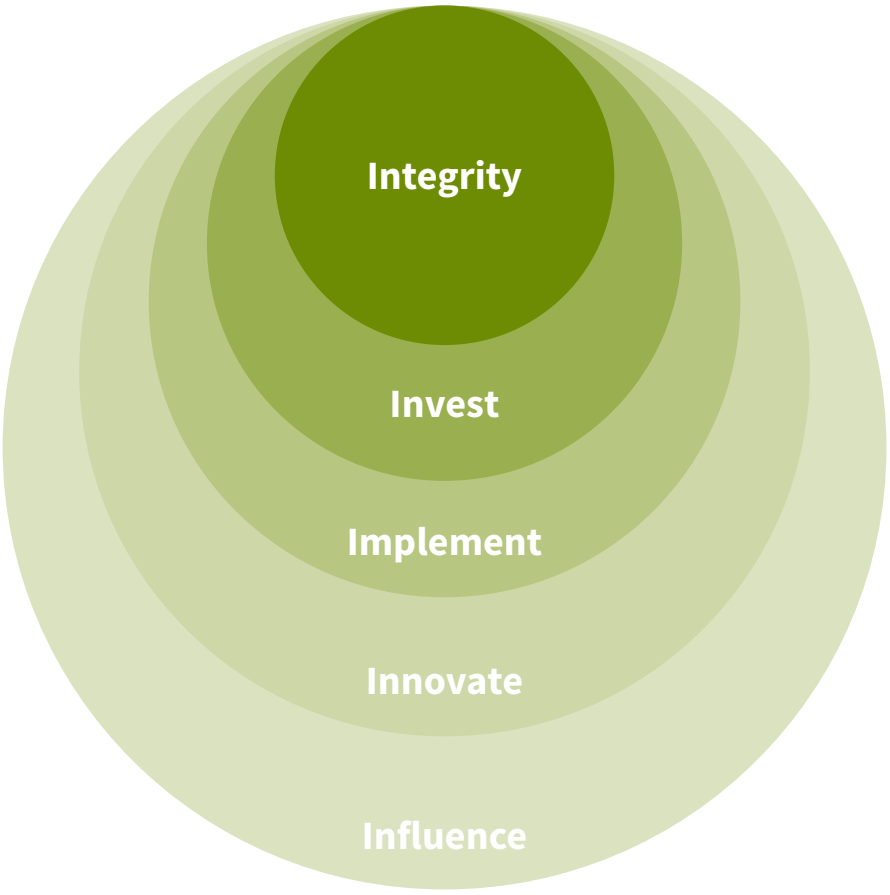
The I's are intended to be taken together rather than viewed in isolation, starting with businesses and governments taking responsibility and demonstrating **integrity** in their purpose and actions. This informs smart **investment** decisions into Net Zero solutions which deliver savings and returns. Customers and suppliers can work together to **implement** Net Zero solutions through our operations and value chains. Taken together these first three "I's" are about 'getting your own house in order', but businesses can also enable the transition in wider society by working with Government to **innovate** the technologies and **influencing** the consumer and public behaviours needed for these to be adopted at scale.

Against each "I" we set out our suggested **benchmarks for business** that we as a group of companies are striving towards and call on all businesses to implement. Recognising that there remains a range of barriers to businesses adopting more ambitious action on Net Zero, each benchmark action for business is tied to an **action for Government** to unlock the opportunity.

Reflecting the urgent need to deliver a step-change in the UK's progress towards Net Zero, we have also identified one **transformative action** for each 'I' which spans across both business and Government action, alongside a **cross-cutting recommendation to strengthen Business-Government collaboration through a Net Zero partnership approach**.

These suggested actions and asks have been informed by the experiences of the AGB members and are accompanied by a set of case studies from across our businesses to shed light on the barriers and how these can be addressed.

Figure 2. The Five "I"s for business action



Cross-cutting Recommendation: Business and Government Net Zero Partnerships

Throughout our discussions, members consistently reflected on the urgency and scale of the Net Zero challenge – from putting in place the necessary energy infrastructure to support a decarbonised power system, to engaging the public to inform, encourage and enable them to adopt low-carbon lifestyles.

Members were clear that the current approach is not working, citing the long delays for energy projects to secure grid connection, the critical skills gaps limiting the uptake of new low-carbon heating technologies, and delays over key policy decisions such as the Future Homes Standard and zero-emission vehicle technologies.

Members discussed the need for a more focused approach from Government on Net Zero delivery and considered the opportunity for the private sector to facilitate this. Members heard examples from overseas where the private sector and Government have worked together to tackle key delivery priorities. Members highlighted good practice from Denmark, described in the case study below, which informs our cross-cutting recommendation for Government to establish a series of partnerships set around Net Zero delivery priorities. This can facilitate a much more streamlined dialogue between policymakers, regulators and businesses – allowing Government to drive coordination, and draw on the private sectors expertise, spurring the positive feedback loop conceptualised in the 'Ambition Loop'. Government and business should work together on developing the shape of these partnerships, so they are designed in a way that maintains broad buy-in, credibility and integrity.

CROSS CUTTING RECOMMENDATION: ESTABLISH BUSINESS-GOVERNMENT NET-ZERO PARTNERSHIPS

DESNZ and Cabinet Office: Set up a transparent and collaborative Net Zero partnership programme with business, focused on accelerating uptake and delivery of Net Zero solutions.

Businesses: Collaborate transparently with Government and competitors to solve shared Net Zero challenges.

Photo: Nicholas Doherty

INTERNATIONAL CASE STUDY

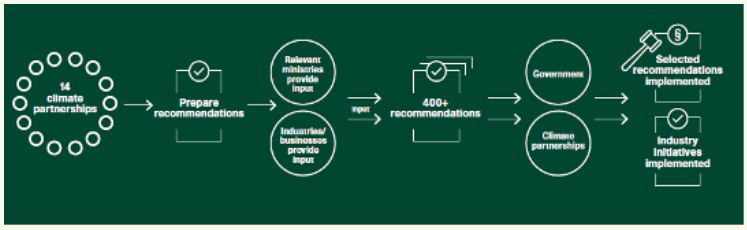
Business and Government working together to deliver Net Zero priorities: Climate Partnerships model, Denmark

Denmark has set ambitious targets to cut emissions by 70% by 2030, on the route to achieving Net Zero by 2050. Once entirely dependent on imported oil and other fossil fuels, Denmark today generates more than 30 per cent of its energy needs by renewable energy sources. Recognising that the challenge to achieve Net Zero will involve faster, deeper transformations across the entire economy, the Government recognised that effective collaboration between policymakers and the private sector is key to achieving success – from developing and trialling innovative solutions, through to scaling and supplying these throughout the economy.

In response to this, in 2020 the Danish Government decided to establish a programme of 'Climate Partnerships', building on the country's tradition of open and trusting public-private partnerships. Climate Partnerships were established for 14 sectors of the economy, and relevant private-sector actors – from construction to commerce to food and agriculture to finance, were invited to work together in developing a set of proposals for how their sector can contribute towards meeting the country's climate goals.

Proposals from the Partnerships were intended to set out what sectors and business actors can do to reduce emissions, alongside a set of asks for Government to address barriers to put key enabling policy in place. Within the space of just a few months, and after an intensive cross-sector engagement exercise, the Partnerships produced their initial set of proposals in March 2020 – including over 400 concrete recommendations to accelerate action. The Government decides what recommendations to take forward and while not all have been adopted, many have been. Importantly, this call and response interaction between business and Government should be seen as an ongoing relationship rather than a stand-alone exercise.

The process has drawn out some valuable lessons, including for the Government, such as: the importance of setting ambitious goals, having a clear scope, effective governance and sufficient support for the project, with a clear plan for taking forward recommendations; and for the private sector, such as: to have well defined sector groups with broad buy-in from a range of actors, to allocate sufficient resources and to set clear priorities and direction.



For more information, visit
https://climatepartnerships2030.com/

OPPORTUNITY 1

Integrity and transparency of impact and actions

THE OPPORTUNITY

Members agreed that businesses that integrate an effective response to Net Zero can gain a competitive edge, by being well positioned to reap benefits such as first-mover advantage in green technology and managing risks and reducing costs of the transition. They also agreed that a more coherent and decisive approach to Net Zero from the Government would boost business confidence and accelerate the transition.

KEY STATISTIC

OVER HALF OF BUSINESS LEADERS SAID COMMITTING TO THE SCIENCE BASED TARGETS INITIATIVE (SBTI) GAVE THEM A COMPETITIVE ADVANTAGE[xiii].

SUMMARY OF MEMBERS' VIEWS

Members recognised that effective business action on Net Zero starts by taking responsibility for their emissions and integrating credible targets, plans and actions to reduce emissions into their core business strategy and performance. This means effective measurement and reporting of all relevant emissions across Scopes 1 - 3, setting science-based Net Zero targets, and disclosing transition plans which identify concrete actions to reduce emissions and only rely on high-integrity carbon credits as a last resort.

The main drivers for business action that members identified were:

- Ethical factors such as the desire to use business to address societal challenges such as climate change.
- Importance of understanding future opportunities and risks to business.
- Investor and shareholder pressure to understand and address business impacts.
- Expectations from the prospective workforce around the need to act on societal issues.
- Statutory regulations and requirements on reporting and disclosure – where these are not overly burdensome and genuinely relevant.

The key barriers to business action that members identified were:

- Misconceptions or limited understanding about what Net Zero means and why it matters.
- Complexity of accurately measuring the entirety of Scope 3 emissions – with lack of consistent, reliable guidance, methodologies and data (such as emissions intensities) to inform foot-printing assessments.
- Inconsistency among the numerous competing initiatives and certifications available for companies to demonstrate that they have robust plans in place to reach Net Zero (at individual level and/or sector level), which makes it difficult for business to assure quality and compare. Members cited more than 60 carbon calculators available for the agricultural sector alone.
- Smaller businesses typically lack the resources, time and capabilities to meet complex and intensive reporting requirements.
- Shareholder pressure and reporting cycles, which leads to focus on short term profitability and can mean that Net Zero is treated as a secondary or long-term issue. Ensuring Net Zero makes good business sense will be key to addressing this – as we discuss under "Investment".
- Lack of clear guidance or standards for governing high-integrity use of carbon credits[xiv].
- Lack of a clear 'golden thread' of Net Zero throughout spending, legislation, and policy, as well as sometimes inconsistent Government communications and signalling on the importance of moving to Net Zero.

Members recognised the central role for Government in setting consistent methodologies and standards and in providing the necessary tools and guidance for business. Members also recognised that Government can set a strong example to business by ensuring that Net Zero is reflected in the integrity of decision making across Whitehall.

ACTIONS FOR BUSINESS AND GOVERNMENT

BENCHMARK FOR BUSINESS	ACTION FOR GOVERNMENT	TRANSFORMATIVE ACTION
(B1) Large businesses Measure and disclose emissions in their value chains (supporting smaller suppliers to provide necessary information).	**(G1) DESNZ** Set clear, consistent, proportional requirements for large companies to measure and disclose Scope 3 emissions (with voluntary reporting for SMEs). Address barriers to effective reporting such as requiring to provide business tenants with relevant energy and emissions information and clarifying what emission sources and intensities to incorporate.	**(T1) Introduce a Net Zero test** Businesses and Government (Cabinet Office/ Number 10) should signal their commitment to Net Zero by placing a test on major investments, spending, policies, strategies and performance.
(B2) All businesses: Set ambitious, science-based targets and KPIs to reduce emissions, and integrate these within performance appraisals.	**(G2) DESNZ** Establish a set of robust, practical definitions and certifications of Net Zero target/pledges for UK businesses to adopt on a voluntary basis – directing business to certification schemes which meet the UK definition.	
(B3) All businesses Develop appropriate plans to reduce emissions and deliver targets, and integrate these within core business strategies.	**(G3) DESNZ** Implement the Transition Plan Taskforce standard for larger private and listed companies and provide suitable guidance to businesses to report effectively.	
(B4) All businesses Only use high-integrity carbon credits where direct emissions reduction are not yet viable.	**(G4) DESNZ** Introduce clear guidance and, if necessary, regulation, to encourage the appropriate use of carbon credits in line with CCC advice that credits should not be used as a substitute for direct business emissions reduction, and they should be “high-integrity” nature-based, biological solutions and engineered removals[xv].	

CASE STUDIES FROM MEMBERS

A journey to carbon neutral certification: Ethical Dairy, dairy farm

Rainton farm is situated in Southwest Scotland midway between Dumfries and Stranraer and a mile from the Solway coast. This tenanted farm extends to 850 acres of which 100 are mixed broadleaf woodlands mostly planted in the past 25 years, 250 of rough grazing and scrubland and 500 of low-grade permanent pastures. The farm is a mixed ruminant livestock farm carrying 130 dairy cows and plus 280 breeding sheep and has been farmed organically for the past 25 years, recently transitioning to being audited 100% pasture fed. No cereals, soya, pulses or seeds are fed to the livestock, however a small amount of dried and pelleted lucerne (a leafy herb) is purchased as a feed supplement for the cows.

It has been the objective of the farmers at Rainton to attempt to achieve a net zero carbon status for the farm while simultaneously regenerating soil health, enhancing biodiversity, raising animal and worker welfare standards (well above industry norms), profitably. This journey has not been without its challenges, but as we have developed a stronger understanding of the requirements and solutions at our disposal, progress has accelerated in recent years:

- Organic matter levels of the soil (which relate directly to soil carbon) had been recorded from before the transition began 25 years ago and have shown a gradual increase across the farm from 11% organic (quite a high amount even for the west of Scotland) matter to 14% today.
- 35,000 mixed broadleaf trees have been planted on the poorest (agriculturally) 10% of the land. These were for carbon sequestration, biodiversity and amenity.
- As a registered and audited organic farm, soluble fertiliser applications and weedkiller use ceased. Gradually, through management changes, the need for pesticides and anti-biotic fell by 95%. The requirement for ground limestone applications to maintain soil pH has fallen by over 80%. Eliminating the need for synthetic fertiliser avoids emissions associated with their production. Purchased feed has been reduced by 75% - reducing the carbon footprint of our feedstock.
- All ploughing and deep cultivation has ceased, being replaced by minimum tillage for pasture reseeding – minimising soil carbon loss and biome disruption.
- All organic farm waste is composted as a liquid in the micro anaerobic digester and applied to the pastures using low ground pressure placement technology and only during the growing season – maximising nutrient utilisation and soil conditioning. Methane from digestion of organic waste is collected and used to raise hot water for washing and heating.

After an initial crash in farm productivity of 30% post-organic conversion, productivity gradually returned to achieve an equivalent output but with reduced cost and thus improved profitability. Moving from a dependency on purchased inputs to drive production, to a more resilient, self-sufficient, closed-loop food system, has also delivered much greater business resilience and security of food production.

The farm has undertaken multiple independent assessments of their efforts to achieve Net Zero. Doing so has highlighted a significant degree of variation in the methodologies applied in carbon foot-printing, including with regards to what emissions are included within the scope of the assessment and what emissions factors are assumed. This lack of consistency contributes to undermining the credibility and comparability of Net Zero certifications, and prevents businesses who have made genuine progress from getting the appropriate recognition.

Despite this, this experience shows that even on a mixed ruminant livestock farm, it is possible to support the transition to Net Zero carbon whilst growing the bottom line. The potential for almost any non-industrial farming system to replicate this is very real, but requires a fundamental system change, which in turn requires a change in management mindset. This can only happen with clear direction, incentives, and planning from the Government.

CASE STUDIES FROM MEMBERS

Integrating a response to Net Zero: John Lewis Partnership, retail business

The John Lewis Partnership is the UK's largest employee-owned business that trades under two retail brands, John Lewis and Waitrose. Since its inception, the Partnership has been a purpose-led business, and its customers and stakeholders hold high expectations about its way of doing business. As such, the Partnership has held a longstanding commitment to reduce greenhouse gas emissions from its operations.

Senior leadership and accountability of businesses' Net Zero targets and plans is important for delivering and scaling climate action. In October 2021, the Partnership's Chairman, Dame Sharon White, signed the Business Ambition for 1.5°C and committed to set science-based targets for its operations and global supply chains. At the end of last year, the Partnership's board-level Ethics and Sustainability Committee (ESC) approved its climate targets for submission to the Science Based Targets Initiative (SBTi) for validation. These approved targets, and their pathway to Net Zero, follow the latest science, guidance and recommendations of SBTi, entirely aligned to 1.5°C and incorporate the latest forest, land and agriculture guidance.

To drive performance of its science-based Net Zero targets, the Partnership has a number of public-facing shorter-term targets for key emissions sources. For example, it has targets for a fossil fuel-free fleet, hydrofluorocarbon (HFC)-free refrigeration, zero deforestation, and sustainable raw material sourcing. The Partnership's performance against its ethics and sustainability targets is governed by its ESC and published in its annual reports. The interest rate of the Partnership's £420m credit facility is also directly linked to performance against its climate targets.

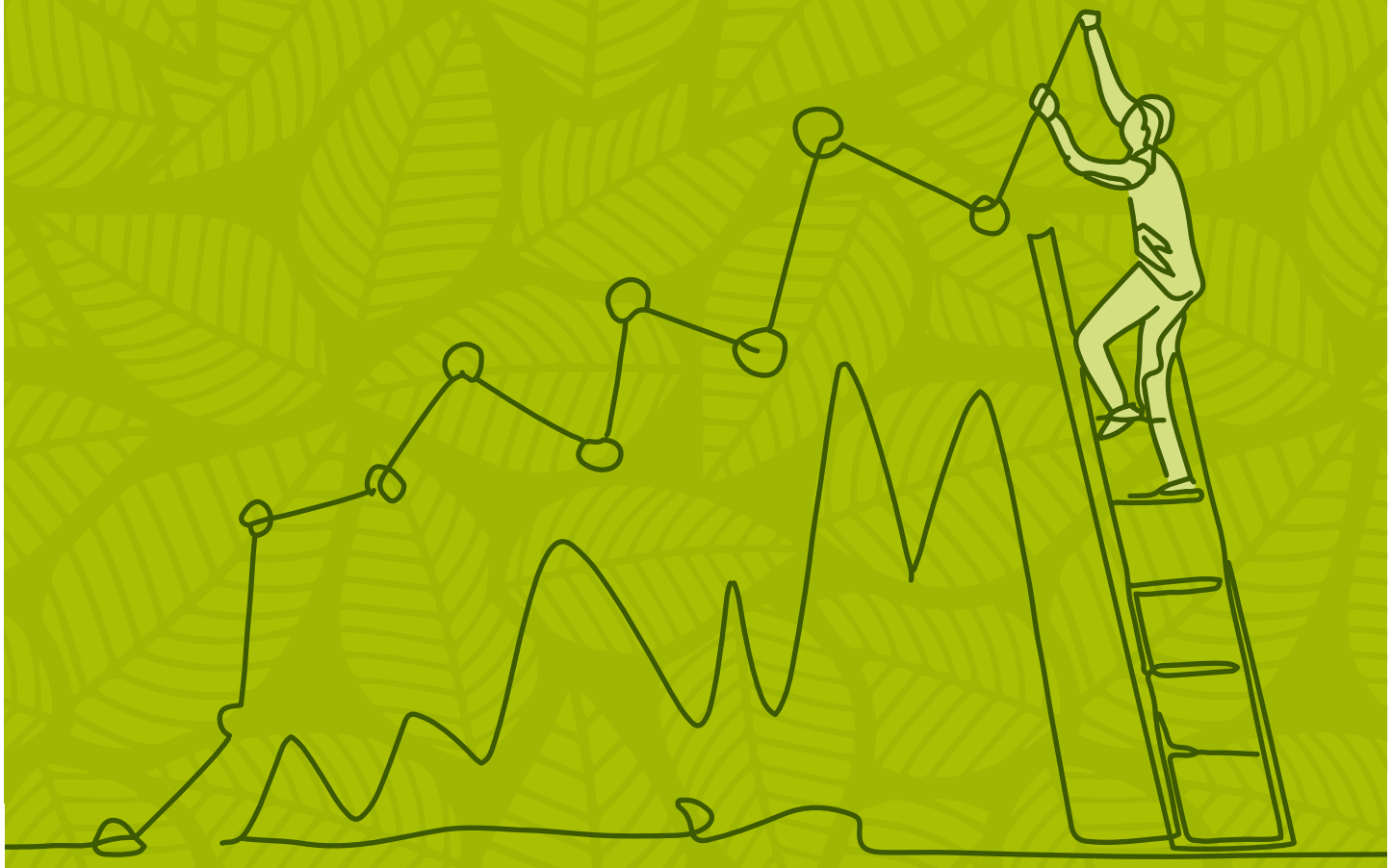
The Partnership is embedding Net Zero considerations into its financial planning and decision-making frameworks; for example by requiring project teams to state any relevant impact within their business cases, prior to approval. Its climate action is focused on materiality and seeks to align with asset replacement cycles and category planning to scale action. To achieve the Partnership's commitment to Net Zero in its direct operations by 2035, 61% of its heavy trucks now run on biomethane; the Partnership procures renewable electricity; and it has introduced electric vehicle and heat pump trials. Integrating Net Zero considerations into the Partnership's performance reporting and internal approvals promotes transparency and balanced decision making for the Net Zero transition.

To reduce the climate impact of its supply chain (scope 3) emissions, the Partnership is collaborating with suppliers and wider industry. The Partnership recently joined Manufacture 2030 and is supporting suppliers representing at least 50% of Waitrose emissions to set their own science-based net-zero targets by 2025 through the WWF Retailers' Commitment for Nature. Scope 3 reporting is vital for tackling climate impact in product supply chains but is also highly complex. Looking ahead, providing clear guidance on Scope 3 measurement, transition plans and Net Zero definitions will support consistency and standardisation across suppliers, supply chains and industries.

A zero-emisson delivery van. Photo: John Lewis Partnership

OPPORTUNITY 2

Investment into Net Zero solutions



THE OPPORTUNITY

Members agreed that businesses who invest in commercially-viable Net Zero solutions can decarbonise their Scope 1 and 2 emissions, have the potential to realise operational efficiencies and generate returns from emerging low carbon sectors. In doing so, the private sector has the potential to provide the majority of investment needed to deliver Net Zero in the UK.

SUMMARY OF MEMBERS' VIEWS

Members agreed that business investment is mission-critical to delivering the Net Zero transition, and that government has a crucial role to play in incentivising this investment. Businesses will increasingly choose low carbon alternatives within asset replacement and upgrade-decisions as low-carbon options become increasingly cost-competitive and if access to finance is provided – although appropriate incentives are also important in ensuring investments had a sound business case.

The main drivers for business action that members identified were:

- The importance of securing a return on investments.
- The need to protect the 'bottom line' – investments need to make sound business sense – businesses need to be profitable.
- The opportunity to achieve cost savings and operational efficiencies – for example members cited the rising cost of energy as an incentive to improve energy efficiency, but also noted that unmanageable energy costs also act as a barrier, absorbing capital/finance and preventing companies from investing in alternatives.
- The desire to support and grow new industries and businesses.

The key barriers members identified were:

- Uncertainty over technology pathways (near, medium, long term) to Net Zero which undermines confidence to invest – such as clarity on dates for commercial properties to phaseout gas boilers and reach minimum energy efficiency standards, clarity on new home standards post 2025, a plan to deal with the existing housing stock and clarity on zero-emission requirements for cars, vans and HGVs post 2030.
- A lack of focus on transitional technologies where zero emissions alternatives are not economic or operationally viable.
- Uncertainty over long-term funding availability which undermines confidence to invest – such as the energy efficiency schemes which have regularly been revised or relaunched.
- Inadequate incentives for Net Zero solutions meaning that many investment decisions lack a positive business case, for example feed in tariffs for onsite electricity generation are too low, electricity prices for industrial users are higher than gas and in general lower carbon purchase or behavioural decisions remain more expensive than higher carbon alternatives.
- High energy costs, which have squeezed businesses' capacity to invest in low carbon solutions.
- The high up-front cost associated with many low carbon investments, particularly for SMEs. Many SMEs will need financial support such as loans or grants to enable them to invest, ranging from hundreds of pounds for efficient lighting systems, to thousands for retrofitting renewables or more efficient heating solutions.
- Limited use of public balance sheets to help underwrite low-carbon investments and provide more favourable green loans.
- Constraints on banks and financial institutions to lend or invest in low-carbon sectors or technologies.

KEY STATISTIC

THE PRIVATE SECTOR IS EXPECTED TO PROVIDE THE MAJORITY OF THE £50BN PER YEAR (BY 2030) INVESTMENT REQUIREMENT TO DELIVER NET ZERO[xvi].

Members recognised the important role for Government in putting in place the necessary policy signals for driving investment, and the need for long-term approach to policy-making to build investor confidence. Members called for product phase-out dates to be accompanied with value-chain route-maps – developed in collaboration with industry – to help businesses plan for and manage their investments. The automotive sector was highlighted as an example of where such plans have been developed, with the Automotive Council developing route-maps to support the transition away from the sale of new petrol and diesel vehicles. This approach could be adopted across different sectors.

Members also recognised the important role for Government in ensuring SMEs have access to the necessary finance to implement Net Zero plans, with various options suggested for how the government could facilitate this. Ideas included providing a "kite mark" for trusted providers of Power Purchase Agreements; adding Government guarantees to underpin certain qualifying green loans for banks; and supporting more favourable capital treatment of Net Zero aligned loans by banks to help accelerate support for financing the transition and recognise the positive impact on risk over time.

Members also highlighted the potential for Government to unlock greater levels of green finance through targeted tax incentives, and reforms to enable additional capital lending from pension and insurance funds.

Photo: Gary Ellis

ACTIONS FOR BUSINESS AND GOVERNMENT

BENCHMARK FOR BUSINESS	ACTION FOR GOVERNMENT	TRANSFORMATIVE ACTION
(B5) Large companies and investors Shift and scale investments into viable low-carbon sectors, products and technologies.	**(G5) DESNZ and HMT** Work with industry specialists to co-develop technology route maps and implement a Green Taxonomy to signpost investors towards low-carbon investment opportunities. Technology route maps should build on good practices (e.g. from the automotive council) and be informed through collaboration with industry and expert sector bodies. The route maps should set out the key steps to Net Zero for each sector and priority actions, underpinned by appropriate mandates for critical outcomes. The UK Green Taxonomy must be compatible with international equivalents and direct businesses towards appropriate transitional investments.	**(T2) Reforms to tax and finance** HMT: To unlock the potential of the UK's financial sector and business investment behind Net Zero, the Government should implement targeted reforms to the tax incentives, capital allowances and lending criteria, as part of a renewed Net Zero industrial strategy. **Private investors and financial institutions:** Stand ready to leverage their balance sheets to significantly scale investments into Net Zero sectors and technologies.
(B6) All businesses Increasingly invest in low-carbon solutions as part of asset replacement or upgrade cycles.	**(G6) DESNZ and HMT** Ensure the balance of incentives encourages investments into low-carbon assets and provide access to low-cost public-backed loans and grants for SMEs to finance their Net Zero plans. On strengthening incentives; for example interventions including ensuring low-carbon electricity is more affordable than gas, ensuring feed-in tariffs (e.g. for solar) are sufficient to encourage on-site generation, and ensuring the price of carbon is more adequately reflected in products and services across the economy. On providing greater access to finance; for example interventions include greater use of the balance sheet of existing public institutions, such as Local Authorities and the British Business Bank. In Wales, Business Wales and Welsh Development Bank have linked favourable lending offers to businesses committing to implement measures to improve energy and resource efficiency.	

CASE STUDIES FROM MEMBERS

Scaling up green finance: L&G, financial institution

Legal & General is an active investor from its own balance sheet, across a range of asset classes, including private equity, private credit and infrastructure debt. We see a significant opportunity to invest in technology and infrastructure climate solutions, which both support the transition to a low-carbon economy and help mitigate our exposure to climate risk. The debt investments are used to match our long-dated illiquid annuity style liabilities to pay our customers pensions, which are ideally suited to the patient capital required to finance low-carbon infrastructure. The private equity investments come from our stock of surplus capital, where we can be flexible over the return profile.

We invest in start-up or smaller companies that need capital to scale up their businesses and their positive transition impact. These SME businesses need patient capital and other forms of support a large company can provide. These new technologies, scaled up, will be critical to achieving the decarbonisation of the economy needed to achieve Net Zero.

In infrastructure debt, we have invested over £1bn in clean energy projects, including solar and wind farms, geothermal plants, smart networks and energy storage assets. In the private equity space, we have successfully invested at the early stage in a diverse portfolio of businesses in key sectors of the transition, such as ground source heating (Kensa), photovoltaic cells for solar panels (Oxford PV), electric vehicle charging (PodPoint), battery management systems (Brill Power), subsea robotics for the offshore wind sector (Rovco), housing retrofit solutions (Sero) and several others.

However, we would like to do more. Financing of clean energy infrastructure in the UK often gets delayed or even cancelled due to local planning delays or restrictions, or delays in obtaining grid connections.

As the debt investments are backing customer liabilities, we have to comply with Solvency II Insurance capital rules which currently prescribe the assets must have fixed cash flows, which significantly restricts which infrastructure assets we can invest in. In Q4 2022 UK Government announced proposals to allow more flexibility in the requirements such that assets only require highly predictable cash flows and there is less penal treatment if the asset has credit rating below investment grade, which should bring a wider range of renewable energy and other low carbon infrastructure investments in to scope for insurers to invest in. However, it is important the government ensures the Prudential Regulatory Authority implements these proposals into its supervisory framework in a pragmatic fashion to maintain their potential benefits.

CASE STUDIES FROM MEMBERS

Decarbonising Logistics: DHL, logistics company

DHL is part of the global DPDHL Group, operating in over 220 countries and territories worldwide. Our family of divisions offer an unrivalled portfolio of logistics services spanning four key product offerings, including international express parcels; supply chain services; intercontinental air; and sea freight. As a Group we have an ambitious target to reach net zero logistics by 2050 and in 2021 we committed to spend EUR 7 billion by 2030 to accelerate our transition to low carbon operations. We continually look at ways to reduce emissions through efficiency measures such as fuel optimisation and carbon neutral building design, whilst investing in the latest technologies such as Sustainable Aviation Fuel for our air operations and electric vehicles and biofuels for our road operations.

At the end of 2022 there were over 40 million[1] vehicles on UK roads and whilst there are increasing zero emissions options for cars and vans, these are far more limited for the HGV sector. With 589,000[1] HGV registered in the UK there is a significant challenge to effectively decarbonise them.

There are some zero emission technologies available, such as the Volvo FM fully electric HGV in operation with DHL[2] (pictured). With a range of 180 miles, this offers a solution for the shorter range and urban routes, but does not yet offer a solution for the longer range and heavy use cases. Other technologies such as hydrogen combustion and fuel cell electric also offer opportunities for zero emission operations with potentially greater ranges, according to the Automotive Council's technology roadmaps[3]. We recognise the need to eventually fully transition our fleets to zero emission vehicles; however, today capital costs for an electric HGV are currently roughly three times that of a diesel vehicle with a reduced range. Producing zero emission HGVs for all use cases in a cost and operationally efficient manner is still expected to be 10-15 years[4] away. Therefore, operators face a challenge to decarbonise their fleets and must look at other alternative 'bridging technologies' to reduce their HGV carbon emissions whilst zero emission technologies and infrastructure further mature, and costs improve.

Bio-methane, both in its Liquified Natural Gas (LNG) and Compressed Natural Gas (CNG) forms, has the potential to be one of these key bridging technologies, which delivers c.80%[5] reduction in carbon emissions when fuelled with bio-methane, and up to 13% with fossil gas. Several UK operators, including the John Lewis Partnership and DHL, have started making investments in bio-methane, with the latter committed to having 500 gas powered vehicles within their fleet by 2025.

This technology is proven and on UK roads today, already reducing HGV carbon emissions. However, there is a lack of refuelling infrastructure for these fuels across the UK. The Government needs to work with industry to ensure these bridging technologies are more accessible, by accelerating the provision of a national refuelling infrastructure, which is currently limited to a small number of highway service stations.

Looking ahead to the roll out of fully zero emissions HGV fleets, there needs to be continued and meaningful support for the uptake of zero emission technologies. Businesses are ready and willing to invest in these technologies but often the wider cost of ownership, energy prices, onsite charging and electricity grid upgrades can be a barrier. Government can play a role in making these investment decisions simpler, by supporting the continued investment in green energy generation and the development of a robust energy grid. This would ensure that electric vehicles are truly zero emission and operators can access the energy they require to decarbonise their fleets.

A zero emissions delivery vehicle. Photo: DHL

[1] https://www.smmt.co.uk/wp-content/uploads/sites/2/SMMT-FACTS-Dec-2022.pdf
[2] https://www.dhl.com/gb-en/home/press/press-archive/2023/dhl-supply-chain-introduces-uks-first-volvo-heavy-duty-electric-tractor-units.html
[3] https://www.apcuk.co.uk/app/uploads/2021/09/https___www.apcuk_.co_.uk_app_uploads_2021_02_Exec-summary-Product-Roadmap-HGV-and-Off-highway-final.pdf
[4] https://www.zemo.org.uk/assets/reports/ZEMO_Renewable_Fuels_Guide%20_2021.pdf
[5] https://www.dhl.com/gb-en/home/press/press-archive/2022/dhl-introduces-20-bio-lng-trucks-into-m-s-fleet.html

OPPORTUNITY 3

Implementing Net Zero through supply chains, procurement, and infrastructure

THE OPPORTUNITY

Members recognised the significant potential for larger businesses and Government to drive implementation of Net Zero through their supply chains, including leveraging procurement to drive demand of low carbon goods and services, and collaborating with smaller suppliers and customers, lending tools, resources and expertise to implement solutions.

SUMMARY OF MEMBERS' VIEWS

Members recognised that for business, implementing Net Zero through operations and value chains will mean aligning procurement practices and collaborating with suppliers. Members highlighted the potential for larger companies to drive demand for low-carbon products, and in doing so help reduce their costs, by aligning their procurement practices appropriately. Members also highlighted a number of examples of larger businesses and smaller suppliers collaborating to implement Net Zero solutions within supply chains.

The main drivers for business action that members identified were:

- The strong signals and requirements set by procurement practices (corporate and public) which drive up standards in supply chains.
- The value of working with trusted suppliers to implement effective change in supply chains, and the importance of trusted purchaser-supplier relationships.
- Strong policy signals and regulations from Government which help to shift markets.
- Opportunities to improve the resilience of supply chains.
- Sector conveners who help to broker consensus among competitors on strengthening actions/standards (WRAP was cited as a good example in the food sector[xviii]).
- Minimising disruption to normal business activity, minimising additional time or cost burdens, allowing businesses to focus on their primary functions – particularly for smaller businesses with more limited capacity.
- Competitiveness, the need to respond to shifting markets but noting the fear of being undercut.
- A stable regulatory space, which provides confidence for businesses to act.

The key barriers members identified were:

- The lack of strong procurement standards to drive demand for low-carbon goods and services, e.g. in the food sector.
- Delays and blockages in delivering key infrastructure such as grid connections, charging infrastructure and planning consents.
- Limited capacity and resources for SMEs to understand the implications of and respond to Net Zero[xix].
- The balance of power in supply chains is often with the larger businesses. Empathy and support is needed for smaller businesses in the chain, and this needs to be a shared responsibility, rather than a top down demand that creates additional pressure.
- The lack of practical standards and tools to provide consistent information, with which companies can make purchasing and procurement decisions based on carbon performance.
- Historically weak requirements to embed Net Zero within public procurement contracts. Members note the opportunity to strengthen this through the forthcoming Public Procurement Act.[2]

KEY STATISTIC

IN 2021, THE PUBLIC SECTOR AWARDED £559M IN NET ZERO RELATED CONTRACTS[xvii] - A SMALL PROPORTION OF THE UK'S £290BN ANNUAL PUBLIC PROCUREMENT SPEND.

[2] The Public Procurement Bill will introduce a new supplier selection regime, based on principles including non-discrimination, fair treatment, value for money, maximising public benefit, transparency, and integrity. While value for money would remain the core objective of procurement, the Bill would require public sector Commons buyers to take a broad view and take account of the national strategic priorities set out in the National Procurement Policy Statement (NPPS). The NPPS asks public authorities to consider wider public benefits, such as creating new (local) jobs and tackling climate change. Source: House of Commons Research Briefing, Public Procurement Bill, 5 January 2023 https://researchbriefings.files.parliament.uk/documents/CBP-9402/CBP-9402.pdf

On infrastructure, members called for Government to urgently reform the planning regime to enable more rapid delivery of renewable energy projects, without allowing major environmental or social damage, noting that the current consent processes often result in long delays or projects being halted altogether, as well as dissuading investment, by increasing risk/ uncertainty. There were calls to rapidly upgrade the electricity grid to account for new renewable generation; and to provide businesses with relief from the full cost of grid connectivity and upgrade charges. Infrastructure is also critical to power the UK's housing stock. As we electrify our homes, the grid needs to meet this growing need while rapidly decarbonising at the same time. Planning will play a role in providing this energy infrastructure, as well as ensuring a smooth transition to building new zero carbon homes everywhere.

Members highlighted the importance of Government strengthening prioritisation of Net Zero within public procurement – in order to drive demand for Net Zero-aligned goods, services and practices. Members noted the important interaction with the need for robust reporting processes, highlighted under "Integrity". There was consensus on the need for provision of expertise/support to SMEs (as well as finance) to help them adapt to new supply-chain and procurement requirements, and this could be provided and this could be provided by expanding the role of expert-sector bodies and impartial advice services.

ACTIONS FOR BUSINESS AND GOVERNMENT

BENCHMARK FOR BUSINESS	ACTION FOR GOVERNMENT	TRANSFORMATIVE ACTION
(B7) All businesses Implement cost-effective Net Zero solutions to their operational sites as soon as possible.	**(G7) DESNZ and OFGEM** Accelerate the delivery of key Net Zero infrastructure and remove key barriers such as delays to the consenting process for Net Zero infrastructure or assets.	**(T3) Prioritise Net Zero within procurement** Cabinet Office: Further extend and strengthen requirements on climate change in the National Procurement Policy Statement. This could include extending coverage of requirements to consider climate change and Net Zero contracts with a value below £5m and tying requirements to the incoming TPT framework. Government should also report and track the carbon performance of suppliers and contracts. Businesses: Align corporate procurement practices to Net Zero goals.
(B8) Larger businesses and smaller businesses Collaborate to enable adoption of Net Zero solutions throughout supply chains.	**(G8) DESNZ** Significantly enhance provision of support to SMEs to access the resources and advice they need to understand and implement Net Zero solutions.	
(B9) All Businesses Consider opportunities to transform or align practices, business models and value-chains in support of Net Zero.	**(G9) DESNZ and DIT** Implement robust, effective regulation to bring slow-movers along and create a level playing field with our competitors at home and abroad.	

CASE STUDIES FROM MEMBERS

Working with suppliers and customers to implement Net Zero: Lloyds Banking Group, financial institution

At Lloyds Banking Group, we are driven by our purpose to Help Britain Prosper. Supporting, and accelerating, the UK's transition to a low carbon future is core to our strategy. Two of the key ways this manifests are through our own supply chain, and those of our customers.

We've set an ambition to reduce the emissions from our suppliers by 50% by 2030, and a similar goal to halve the emissions we finance for customers, over the same period. We've begun by launching our Emerald Standard – drawing on existing globally recognised assessment approaches to set out clear sustainability expectations for suppliers. To date, we've contacted our top 123 suppliers who contribute approximately 80% of in-scope emissions and represents over 80% of related spend. Of these, 57% have a science-aligned target, 56% have committed to Net Zero and 43% appear to disclose full scope 1,2 and 3 emissions through CDP.

We also work closely with business customers to understand their challenges in driving change through their own supply chains. We recently held a Supply Chain Resilience event bringing together businesses of all sizes; to help us to consider and design the best support for them. We learned that smaller businesses need support from their buyers to ensure they can meet their needs effectively, and want clearly defined public policies regarding data, measurement and scoring standards. Whilst larger businesses have greater resources available, they face challenges from the complexity involved in assessing global supply chains, and making robust disclosures, as well as uncertainty on how standards will evolve.

We are looking at ways to further support our customers to navigate this complexity – be that through new sustainability products, investing in thought leadership[1] or developing data insights.

[1] Trade Insights | Supply Chain Resilience | Lloyds Bank Business

CASE STUDIES FROM MEMBERS

Implementing solutions to reduce emissions and improve efficiency: BAE, defence supplier

Since 2004, working with the Royal Navy, BAE Systems has reduced estate CO2 emissions at Portsmouth Naval Base by more than 40%. This is despite energy demand almost doubling recently due to the needs of the aircraft carriers at the base.

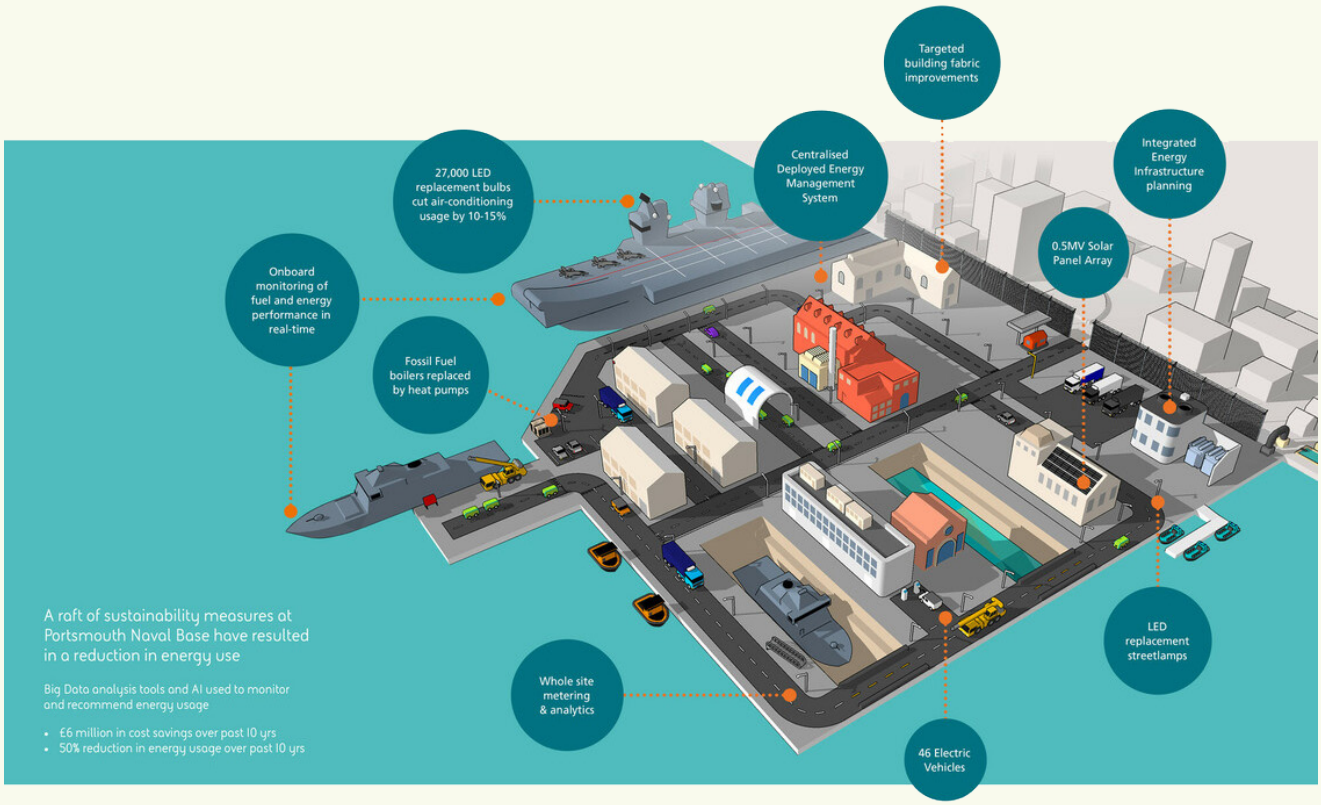
This has been achieved with activities such as the installation of approximately 500kW of photo-voltaic roofing and 13.5MW combined heat and power generation, alongside a number of targeted energy reduction projects and initiatives.

The reductions in energy usage at Portsmouth Naval Base are seen as good practice across both our own company and with our customers, as we have hosted several groups of UK Ministry of Defence visitors, including from outside the Royal Navy, to share our experiences. Public procurement is a powerful lever for the Government to drive implementation of Net Zero through supply chains. PPN (Public Procurement Note) 06/22 sets requirements for BAE and our suppliers to have published carbon reduction plans and Government awards a minimum of 10% scoring criteria to 'social value act', which includes climate change – however there is scope for Net Zero to be much more integrated within public procurement practises.

We have been working to improve the way data is used to control and monitor estate operations and inform decision making. We overlaid three-dimensional geospatial models of the dockyard with various sources of estate and asset information to provide powerful visualisation tools, easy access to information and analytics dashboards.

Commercial off-the-shelf sensors have been integrated to tag and monitor on-site assets like cranes, buses and pumps. This data provides a single point of truth from which we can track electrical performance, maintenance requirements and power usage across a site and so allows us to better locate charging stations and optimise operations for maximum efficiency.

It goes without saying that we need to go on this journey with our supply chain partners. Our supply chain generates approximately five times more emissions than our own operations each year and we are just one part of an ecosystem and so engaging them and joining up on objectives and initiatives is critical to success. Government can enable this sort of collaboration through common reporting frameworks with emphasis on materiality to avoid duplication and apply focus effort on key areas.



CASE STUDIES FROM MEMBERS

Transforming business purpose and supply chains: Low-carbon Energy company, solar power SME

The low carbon energy company is a provider of commercial solar pv for self-consumption, and installer of battery technology and EV solutions B2B across the UK and Republic of Ireland.

Around four years ago we reviewed our business and really tried to understand our role in the future and how we can influence decision makers. Given limited support available from the Government, we decided to take the initiative. At that time, we had a team of five people so the ability to effect change at any scale was limited.

Over a six-month period the review brought us our purpose. “To inspire change today to protect future generations”. Understanding this made it a much clearer message for our customers and allowed them to get on board with the message that it wasn’t a purely commercial decision. We understood that it wasn’t our role to just to sell solar pv systems. We recognised what our clients had been telling us for several years. The reason they chose us was that we helped educate them in what the journey to sustainability meant and we assisted them in understanding that measuring, recording, planning and actioning in all areas of energy consumption and savings was the way forward, and by taking that approach, a whole raft of benefits would follow, including financial, environmental, and generally assisting in ESG compliance.

We monitor all our systems and offer our clients annual reports on carbon and energy saving through the lifetime of the installation. We took it upon ourselves to develop our own talent and our team of 13 people consists of 4 graduates who we have taken without work experience and have developed into designers and project managers with the skills and knowledge to help us grow.

In addition to that we have committed to working with a brilliant local charity called positive footprints who go into deprived and underperforming local schools and offer classes to promote STEM learning opportunities to those children who might not recognise, or have family support, to see that there is future in technology and learning. As part of that support our graduates attend one the schools on the programme to talk about their work, what it means and what opportunities it brings.

We appreciate we aren’t a typical SME in a supply chain because our business is that of sustainability, but we also believe that larger organisations have a duty to assist their supply chain in making that change. In the absence of government intervention, we believe that larger companies would be able to deliver change quicker if they engaged properly with their supply chain and offered the necessary support for those companies to do what we have done.

We have found the most successful outcomes occur when our customer genuinely wants to partner with a supplier to reduce emissions and costs, without coming at the expense of values and quality. Better engagement in understanding the skill set that supplier has that can enhance the business overall is a win-win.

OPPORTUNITY 4

Innovative industries and workers

THE OPPORTUNITY

Members highlighted the opportunity for dynamic businesses and skilled workers to build innovative low carbon industries in Britain, and in doing so reap the dividends from the growing global Net Zero economy whilst enabling the UK to be a world leader in key Net Zero technologies.

SUMMARY OF MEMBERS' VIEWS

Members recognised the significant potential from UK businesses and workers to help design, develop and scale some of the biggest Net Zero challenges. They also highlighted the benefits of developing 'made in Britain' Net Zero solutions in areas of strategic priority, including economic opportunities, new jobs and supply chain resilience. Members noted that larger businesses are well placed to trial nascent technologies (such as hydrogen HGVs and battery storage for homes), and emphasised that all businesses should strategically consider their changing skills requirements implicated by Net Zero.

The main drivers for business action that members identified were:

- The prospect of seizing commercial opportunities from emerging Net Zero technologies, services, and markets.
- The desire to support home-grown industries, create jobs and develop skilled people – in the UK.
- The need to keep-pace with global competitors such as US. EU and China in the race to Net Zero and the green industrial opportunities this presents.
- The critical role of workers in underpinning business success, and the need to support them in prospering through the transition.

The key barriers members identified were:

- A lack of funding certainty across the full cycle of innovation, with a gap between the end of some EU funds and UK replacements, and provision of short-term grants, often at short notice, and with complicated terms that companies may view as too onerous to apply.
- Mid-innovation funding such as that provided by Innovate UK is predominantly available via competition which is time consuming and undermines confidence.
- Limited access to low-risk lending instruments to scale innovations to commercialisation.
- International supply of vital components is at risk of delay and disruption which could slow the transition to Net Zero.
- New technologies are often more expensive than incumbents, so struggle to break into the marketplace.
- Innovation programmes are not sufficiently output focused – e.g. delivering jobs and bringing new products to market.
- Business support is time limited - traditional 'bite size' of 12 hours support under previous European Structural Fund is minimal compared to the needs of customers.
- There are far too few demonstrator facilities across the UK – customers want to see a working full-scale demonstration of the product in an industrial setting before they buy.
- It is challenging for businesses to apply for funding repeatedly through every stage of a product's development and there is no supporting agency to support businesses along the way.
- The Net Zero skills gap, which is a critical risk to delivery and innovation. Particular issues highlighted were challenges recruiting the skilled workers needed, the lack of flexibility to pass on unspent apprenticeship levy, the challenge around recognising interoperability of skills between sectors and the lack of a coherent plan.

KEY STATISTIC

THE GLOBAL MARKET OPPORTUNITY FOR UK COMPANIES PRODUCING THE GOODS AND SERVICES TO FEED THE NET ZERO REVOLUTION COULD BE WORTH MORE THAN £1 TRILLION BY 2030.[xx]

Members highlighted the need for Government to provide more reliable funding throughout the innovation process – from R&D and pilot stages through to scaling and, crucially, commercialisation, with the provision of low-risk innovation loans and the replacement of EU funding suggested as options. Mid stage innovation/scaling funding currently delivered through the competition orientated Innovate UK process, would be more progressive and positive for businesses if the business became eligible for support once the innovation was assessed as exceeding a technology market viability assessment.

Members felt there is a need for greater clarity from Government as to the strategic innovation priorities for the UK, and that there are regulatory changes that could support innovation, e.g., onshore wind consents, grid connectivity, and planning reform. On skills and workers members called for greater flexibility around the use of the apprenticeship levy, the importance of enabling easier transition of skilled workers from one sector to another and the need for a strategic plan to meet the UK's Net Zero skills needs.

ACTIONS FOR BUSINESS AND GOVERNMENT

BENCHMARK FOR BUSINESS	ACTION FOR GOVERNMENT	TRANSFORMATIVE ACTION
(B10) All businesses Direct their ingenuity and resources into solving key Net Zero challenges, with larger companies piloting emerging technologies.	**(G10) DESNZ and DSIT** Review the provision of funding and finance for Net Zero R&D, early and mid-stage innovation and late-stage commercialisation.	**(T4) Take a strategic approach to national innovation priorities** DESNZ and DSIT: Clarify a set of strategic national Net Zero innovation priorities where the UK has a competitive advantage, and provide enhanced innovation funding, finance and supportive regulation (such as production mandates) to bring these forward at pace. This should link closely to Technology Readiness Levels, help reduce uncertainty, remove potential disadvantage for early adapters, and so drive investment. The planned Green Taxonomy is an opportunity to highlight Net Zero innovation investment priorities.
(B11) All businesses Actively consider future skills requirements in their sector and work with Government to inform and fund appropriate training and qualifications.	**(G10) DESNZ** Conduct a review of skills gaps across key sectors; assessing and improving the impact of Net Zero training provision, and developing closer links between employers and education and training providers e.g. via an enhanced Apprenticeship Levy, or alternative incentives. An immediate change Government could make is to raise the annual transfer cap in the Apprenticeship Levy to enable larger businesses to spend an increased share of their levy funds, including on regulated training and apprenticeships across Net Zero trades and technologies.	

CASE STUDIES FROM MEMBERS

Supporting local Net Zero innovation: RedCat, innovation initiative in East Lancashire

The UK is a wonderful place for innovation with quality Higher Education Institutions supporting new low carbon product inventions through research and development. However full commercialisation of those innovative products, creation of manufacturing plants & jobs, and exporting of the finished goods - to solve our global climate problems - is severely constrained.

RedCAT is an initiative developed and led by East Lancashire Chamber of Commerce. Conceived in December 2019, partnerships have been built with regional and national bodies (Advanced Manufacturing and Research Centre (AMRC) NW, Electricity NW, the Environment Agency) with local politicians, local government and innovation leaders in the low carbon field, to conceive and create a long-term independent initiative – to provide a pathway of technical business consultancy, financial and R & D support to accelerate the commercialisation of low carbon technologies. Our role is:

- Building end to end commercialisation funding and expert support for low carbon technologies
- Identifying the viability of technologies, market, early adopter funders, potential buyers, venture capital (VC) and equity investors and global roll out opportunities
- Combining capital support from public, private and VC/Equity sources to enable the initial R&D costs of prototype development, demonstration, first sale product and scale up costs to be supported
- Provide access to RedCAT in house clinics with the British Business Bank & embedded Innovate Edge team, and the RedCAT United Nations Innovation Challenges Platform, to help businesses and innovators know how to access the support and resources available to them.
- To accelerate the manufacture, adoption and export of low carbon tech to drive local economic green recovery and resilience and support the global response to climate change

In two years, we've successfully turned £2.2 million of Government capital grant and funded consultancy support into £4Million+ of sales & inward investment/ VC and equity funding, nine new products being manufactured, 240 jobs safeguarded, and 36 new jobs created. And in 5 years we are estimated to deliver in excess of, £32Million of economic benefit, 250 safeguarded jobs and 200 new jobs created and 29+ new products being produced.

In terms of what is needed for the UK to seize the innovation opportunity of Net Zero, it centres on enhancing the funding landscape, namely: continuing to fund early innovations, post European funding cessation, moving mid stage innovation funding to a non-competition basis and instead focusing on supporting technologies to develop to exceed a 'market viability' threshold, to then qualify for support. Funding at later stage of technology development, i.e. TRL (transition readiness level) 7-10 should be focused on real delivery of commercialisation, manufacturing and export achieved, jobs created.

In addition, business support needs to be open ended, multi-agency and free of charge, focusing on long term relationship building with funding agencies to encourage ongoing funding support over the evolving life of the innovation and its scale up, to secure maximum economic output for the UK. Where innovation funding is provided focus should be on securing long term economic benefit for UK by supporting through to manufacture, sales and export - and delivery of low carbon technological solutions to the global market where they are required.

CASE STUDIES FROM MEMBERS

Scaling Sustainable Aviation Fuel from waste: Velocys, sustainable fuels company

Velocys is a sustainable fuels technology company, originally a spin-out from Oxford University, and now employing over 40 people in the UK and the USA.

The company's focus is on Sustainable Aviation Fuel (SAF). SAF is critical for reducing the GHG emissions from aviation; it can be used in today's aircraft without changes to the fleet, and 70% of aviation emissions come from long-haul flights where other power solutions (hydrogen or battery electric) lack the necessary energy density. SAF can be made from a wide range of carbon sources, including municipal solid waste and forestry waste; it can also be made from carbon dioxide using renewable electricity and hydrogen. Velocys' modular technology for synthesis of hydrocarbons is key to several of these pathways. Fuel made in this way is qualified for use in all commercial aircraft at up to 50% in a blend with traditional fossil jet fuel.

Velocys is leading the development of the Altalto waste-to-SAF project in Immingham, North East Lincolnshire. The proposed plant will take hundreds of thousands of tonnes per year of residual waste, otherwise destined for landfill or incineration, and use it to make SAF, while also sequestering carbon dioxide. The plant will save over 300,000 tonnes of carbon dioxide emissions per year, bring jobs, improve the UK's energy security, reduce imports and establish the UK as a leader in this new industry with a global technology export opportunity.

It is vital to establish commercial SAF production quickly so that the industry can then ramp up to meet the demand. The aviation and renewable fuel industries and the Government have worked closely together, through the Jet Zero Council, towards ambitious targets, including 10% SAF in jet fuel by 2030 and five commercial UK plants in construction by 2025. The UK is in the enviable position of having several SAF projects at an advanced stage of development, of which Altalto is one. However, obtaining finance is a critical barrier to this industry in the UK.

SAF projects are capital-intensive, and are challenging to finance for two main reasons: first-of-a-kind plants carry residual technical and project execution risk, but even more importantly, the regulations are not yet in place that would create a SAF market with sufficient certainty of revenue to support a project finance investment case. The Government is proposing to introduce a mandate for SAF and a system of tradeable certificates to incentivise SAF use, but a price stability mechanism such as that used in the electricity and hydrogen markets is also necessary in order for projects to access debt and thus to get financed and built.

General lessons from this case study:

- Focus on the solutions that can deliver GHG savings at scale and speed;
- Cross-sector collaboration is vital;
- Capital project finance can only be obtained with sufficient revenue certainty, which in regulated markets, only Government can provide.

Concept image of SAF production facility. Image: Velocys

CASE STUDIES FROM MEMBERS

Innovating the home of the future: Barratt Developments, housing developer

As the UK's leading national sustainable housebuilder, we have a responsibility to build sustainably and support the industry as we move towards net zero homes, at scale.

We are well-placed to do this, with highly experienced teams engaging with partners and suppliers towards shared sustainability goals. Innovation will be crucial, as we transition to future-ready, zero carbon homes, sharing data and knowledge as we drive sector-wide change.

A track record of innovation

Investing in innovation, research and development supports our transition, helps our supply chain and boosts the development of low carbon technologies. Our track record of innovation is preparing us for the Future Homes Standard and for net zero homes by 2030. We built the first eco home from a major housebuilder, the Green House, and Hanham Hall, the UK's first net zero carbon community.

At the Zed House, we worked with 40 organisations to test a range of technologies and enable change throughout the supply chain. The home, which took a fabric-first approach, features a variety of low-carbon heating solutions, water-efficient technologies, smart energy systems linking solar panels, batteries and electric vehicle plus a nature-friendly garden. The aim is to find the best solutions to help customers' live sustainable lives.

eHome2, built at The University of Salford, goes even further. We have refined our approach and added smart systems to integrate the technology and provide a better customer experience. The home, developed with Saint-Gobain, also uses low carbon materials to limit the use of resources in construction. Built inside the Energy House 2.0 environmental chamber, eHome2 is being road-tested in the climate of the future.

Ambitious targets, clear plans

As well as innovation, a range of important ingredients are required to achieve a smooth, effective and just transition to net zero.This includes setting a long-term vision, a clear plan and consistent measurements. We were the first major housebuilder to set science-based carbon reduction targets and are committed to becoming a Net Zero business by 2040. Our Building Sustainably Framework brings together all of our ambitions, activities and metrics to ensure that sustainability is deeply rooted in every decision and action we take.

The Zed House, Barratt's zero carbon concept home showcasing sustainable living. Credit Barratt Developments

With Executive Committee representation and a Board-level Sustainability Committee, sustainability is embedded at the heart of our business. Our Building Sustainably Framework, targets, actions and performance are publicly available – a sector-leading approach recognised by a Crystal award for transparency in sustainability disclosures from Next Generation. We know we need to invest time and resources to become a sustainable business – investing in our people, developing new skills and supporting frontline teams via our experienced in-house Sustainability team.

But it is not all about tomorrow, all of our homes are highly energy efficient and we are trialling and rolling out new technology across our homes today. For example, in Somerset, every home at our Delamare Park development is fitted with an Air Source Heat Pump. We're driving down carbon emissions and waste, moving to renewable energy and replacing diesel with hydrotreated vegetable oil (HVO). We work closely with partners and the Supply Chain Sustainability School to help suppliers tackle their emissions too.

Through a unique Supply Chain Sustainability Matrix, co-created with our partners, we align our procurement activity with our sustainability policy and ambitions. This has been transformative for our business and across the value chain.

Making change happen, everywhere

The whole industry needs to move towards net zero together. That's why we're providing leadership and expertise to the Future Homes Hub, a joint industry and government initiative, creating a shared sector roadmap and supporting SMEs to develop transition plans.

As a FTSE 100 business and sector leader, we can advocate for positive change. Through initiatives like the Energy Efficiency Taskforce and Net Zero Council, we provide insight to government to help inform a long-term plan, underpinned with certainty around targets and measuring progress. The planning system has a critical role too, with consistent carbon standards driving a smooth net zero transition everywhere.

We also work with lenders to ensure green is cheaper. Building energy efficiency into mortgage affordability, unlocking better rates, would reward customers making a sustainable choice. Industry is ready to deliver. Clarity for business, confidence for customers and impactful green finance can unlock the market for low carbon homes – attracting investment, innovation and talent.

The Energy House 2.0 environmental chamber, testing Barratt's eHome2 in future climate conditions. Credit Barratt Developments

OPPORTUNITY 5

Influence
of business on society

THE OPPORTUNITY

Members recognised the significant potential for businesses to channel their reach across society to inform, encourage and enable public action on Net Zero and in turn help to grow emerging markets for low carbon products and services.

SUMMARY OF MEMBERS' VIEWS

Members agreed that the business community has an important contribution to make to public understanding and support of the climate change agenda, including informing and enabling consumers about purchasing decisions, and aligning businesses models and practices to encourage supportive behaviour change. In particular the group highlighted the critical role of communications and creative sectors in advising on the most effective forms of Net Zero communication.

The main drivers for business action that members identified were:

- Increasing expectations and demand from consumers for businesses to act/ lead on societal issues such as climate change.
- The opportunity for businesses to support and enable consumers to engage in Net Zero.
- The need to rapidly accelerate uptake of Net Zero solutions across society.
- The importance to businesses of retaining and strengthening their social license.
- The opportunity for business to play a supporting role in shaping and growing emerging low-carbon markets.

The key barriers members identified were:

- Misleading claims from a small number of businesses which undermine consumer and public trust[xxii].
- Lack of business, consumer and public understanding or awareness of what Net Zero means for them, combined with barriers and a lack of policy preventing them from doing the right thing[xxiii]. The shift in the agriculture sector was highlighted as an area especially in need of clearer policy direction, engagement, and incentives to drive the necessary behavioural changes up and down stream.
- A lack of data / information to inform customers / consumers regarding procurement and purchasing decisions[xxiv], for example air source heat pumps.
- Other practical barriers to consumers being able to do the right thing, such as prohibitive costs, inconvenience or a lack of adequate facilities or services.

Members called on Government to work with the media and communication sector to develop a long-term public engagement strategy to inform the public about Net Zero and what it means for them. Members welcomed efforts by regulators to clamp down on greenwashing, but stressed the need to consider the limitations in being able to always provide perfect information. Members highlighted the need for a compelling consumer offer on Net Zero, focused on incentivising and empowering consumers to do the right thing – making low-carbon choices more affordable and convenient.

KEY STATISTIC

88% OF PEOPLE IN THE UK WOULD LIKE TO MAKE MORE SUSTAINABLE CHOICES, BUT THE SAME PROPORTION FEEL IT'S TOO HARD TO MAKE SUSTAINABLE CHOICES BECAUSE OF HIGH COSTS, INCONVENIENCE, LIMITED KNOWLEDGE OR OTHER BARRIERS.[xxi]

ACTIONS FOR BUSINESS AND GOVERNMENT

BENCHMARK FOR BUSINESS	ACTION FOR GOVERNMENT	TRANSFORMATIVE ACTION
(B12) All businesses Channel consumer influence in support of Net Zero societal changes and technologies – helping to educate, encourage and enable the public.	**(G12) DESNZ and DCMS** Coordinate a long-term public engagement strategy for Net Zero in partnership with media and communications sector.	**(T5)** Government and business work together to create compelling consumer offer on Net Zero, incentivising and empowering the public to adopt lower carbon lifestyles and products.

CASE STUDIES FROM MEMBERS

The media industry's role in socialising Net Zero: Planet Placement, media and communications initiative

Planet Placement is an online resource from The British Academy of Film and Television Arts (BAFTA) albert team in partnership with change-agency Futerra. This guide has been developed to enable the UK's film and TV industry to help raise public awareness about climate change, by introducing sustainability messages into the content we see on our screens.

The screen industries have a crucial role to play in solving climate change. Reducing the footprint of productions is important. But, by far, the greatest opportunity to make an impact is through the content they put on screen. Collectively, this industry reaches millions of people every single day. That represents an unprecedented opportunity to shift mindsets and make positive environmental behaviours mainstream.

We've already seen how powerful TV and film can be in embedding positive behaviours. In the 80s and 90s, the term 'designated driver' was deliberately introduced into hundreds of primetime TV shows, helping to normalise the behaviour and measurably reduce drunk driving fatalities.

Today, producers, directors, scriptwriters and creatives from across the film and television world can use Planet Placement to raise the issues and show the actions needed to combat climate change.

Following the launch of Planet Placement, at COP27 in Glasgow the industry pledged greater efforts for climate coverage. Signatories included 12 of the UK and Ireland's largest media brands: the BBC, BBC Studios, BritBox International, Channel 4, Channel 5/ Paramount UK, Warner Bros. Discovery UK & Ireland (previously Discovery UK & Ireland), ITV, RTE, S4C, Sky, STV, and UKTV.

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