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Interventions to support UK SMEs in deploying low carbon technologies and measures by 2030

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Life Is On Schneider Electric

Interventions to Support UK SMEs in Deploying Low Carbon Technologies and Measures by 2030

Foreword by Kelly Becker, President of Schneider Electric UK, Ireland, Belgium and the Netherlands

Small and medium-sized enterprises (SMEs) are the backbone of the UK economy, accounting for 60% of UK employment and 48% of business turnover. As the UK strives to meet its decarbonisation targets and accelerate the digital transformation, the role of SMEs is critical.

Consecutive governments have implemented ambitious policies to accelerate industrial decarbonisation. SMEs have access to a wide range of decarbonisation technologies spanning clean electricity generation, low-carbon heating and cooling, and operational energy efficiency. However, as this report shows, SMEs face significant and specific barriers in accessing the resources, skills, and support needed to deploy low-carbon technologies. Without targeted intervention, we risk leaving behind the businesses that drive innovation, resilience, and green growth across the country.

The Government's 2025 Industrial Strategy, and associated sector plans, provide much-needed clarity on the future policy approach and the support packages that will be available for SMEs. The commitments to tackle energy costs and extend and expand the Made Smarter Adoption Programme are welcome. However, as this report shows, these actions must be complemented by other policies that support a wider range of SMEs, beyond those in the eight growth sectors. We also urge Government to continue to put decarbonisation and net zero at the heart of its policy programme.

The evidence and recommendations presented in this report make a compelling case for a joined-up approach led by the private sector and central and local government. By investing in this transformation, we can future-proof the businesses that make up the backbone of our economy, and unlock new opportunities for productivity, international competitiveness, and green growth.

This report comes at a pivotal moment. The twin transitions of decarbonisation and digitalisation are not only environmental and technological imperatives; they are economic necessities that will support long term growth and prosperity.

I commend this report to policymakers, industry leaders, and all stakeholders committed to building a more sustainable and digitally enabled UK economy.

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Executive Summary

Small and Medium-sized Enterprises (SMEs) are the backbone of the UK economy, with a total turnover of £2.4 trillion in 2023 (53% of all private turnover) and employing 61% of all private sector workers. The sector represents 99% of all UK businesses and accounts for 36% of domestic greenhouse gas (GHG) emissions. Supporting SME decarbonisation is therefore vital for achieving net zero by 2050, while also ensuring energy affordability, boosting productivity, enabling national and local economic growth, and maintaining the UK's leadership in low-carbon innovation.

SMEs have access to a wide range of decarbonisation technologies spanning clean electricity generation, low-carbon heating and cooling, and operational energy efficiency. However, uptake remains limited due to distinct barriers. These include lack of awareness and data (knowledge-based), constraints on time, staff, and expertise (capacity-based), and challenges around high upfront costs and limited access to capital (financial barriers).

Current UK policy efforts to support SME decarbonisation are fragmented and largely indirect. Many SMEs are ineligible for national climate schemes and must rely on devolved or local initiatives, leading to regional gaps in support. While schemes like tax reliefs and discounted loans exist, awareness and uptake remain low. The policy landscape lacks a coherent, joined-up strategy to meet SMEs' unique needs. A market penetration assessment and sectoral case studies (retail, food & beverage, professional services) illustrate the variability in emissions sources and decarbonisation pathways across SMEs. Despite challenges, there are still opportunities for emissions reduction, cost savings, and competitive advantages.

This paper recommends a suite of interventions spanning awareness campaigns, targeted grants, regulatory reform, and green finance innovation to bridge the policy gap and support SME decarbonisation. Financial institutions can play a role by improving access to green finance and offering decarbonisation guidance. However, without innovative financial products and clear incentives, uptake will remain suboptimal.

Policy Recommendations

1. Support UK SMEs in understanding their energy and carbon footprint through subsidised sustainability audits and standardised reporting tools.

2. Run public awareness campaigns to inform SMEs about the benefits and need to decarbonise.

3. Review and optimise existing government funding schemes, including the Industrial Energy Transformation Fund (IETF) and Made Smarter Adoption programme, to ensure more effective use and uptake of public funding.

4. Enhance energy efficiency standards for non-domestic rented properties (i.e., business premises).

5. Support SMEs in accessing low-cost finance for decarbonisation measures through low-cost loans or upfront grants.

6. Review existing approaches to energy taxation and the funding of renewable subsidies to encourage businesses to make investments into decarbonisation measures.

7. Review the current approach to business taxation to ensure that capital allowances encourage SMEs across multiple sectors to decarbonise.

8. Reform the current approach to corporate taxation to encourage SMEs to operate in areas relating to net zero and deliver emissions reductions.

Private sector led initiatives

9. Encourage SME clients to make investments into decarbonisation measures, where it makes financial sense to do so.

10. Provide tailored financial products for green investments that detail the likely payback or savings enabled by the investment.

Chapter 1: Background - Role of SMEs in UK Decarbonisation

The UK has committed to ambitious decarbonisation targets, with a target for a clean power system by 2030, economy wide net zero emissions by 2050 and an interim target of 81% reduction on 1990 emissions levels by 2035. Progress towards these targets will largely need to be led by the private sector, with targeted government policies to guide the evolution of markets and incentivise actions from consumers and businesses. Markets for decarbonised products and services have been growing rapidly in the past three decades, with technologies such as electric vehicles, solar PV and offshore wind playing an increasing role in the UK's energy transition.

Modelling conducted by the Climate Change Committee, the UK's independent advisor on climate change, indicates that the benefits of the transition to a low carbon economy vastly outweigh the enabled savings across the medium- to long-term, with an estimated costs of around 0.2% of UK GDP annually[1]. Clean technologies have the potential to deliver long-term cost savings, but the high upfront investment required - often greater than for fossil fuel alternatives, remains a substantial barrier for many businesses. In most cases, these upfront investments will need to come from the private sector. Beyond investments, several other challenges must be navigated to achieve the UK's climate goals at the required pace.

UK-based SMEs face a particularly unique challenge when it comes to decarbonising their operations, as they typically have lower profit margins, limited internal sustainability knowledge and face difficulties in accessing capital from financiers. SMEs make up 99% of the UK business population[2] and are responsible for substantial portion of domestic GHG emissions (see Figure 1), but over three-quarters of SMEs are yet to implement comprehensive decarbonisation strategies[3]. Even more challenging is the fact that 87% of SMEs surveyed are unaware of their total carbon emissions[4], despite accounting for 43-53% of total emissions from UK businesses[5].

[1] Seventh Carbon Budget, Climate Change Committee, 2025.
[2] Business population estimates for the UK, Department for Business & Trade, 2024.
[3] Smaller Businesses and the Transition to Net Zero, British Business Bank, 2023.
[4] 9 out of 10 SMEs don't know business carbon emissions, NatWest, 2022.
[5] Smaller Businesses and the Transition to Net Zero, British Business Bank, 2021

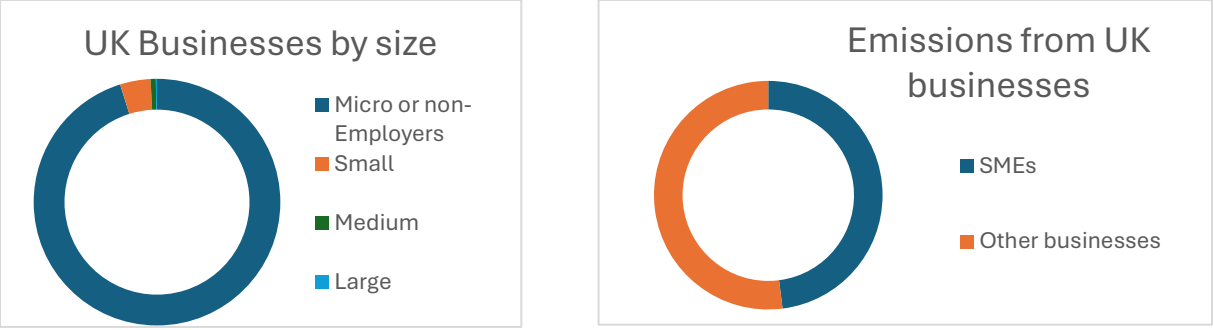

Figure 1 UK Business Size Distribution and Emissions Contribution

Policy interventions to support UK SMEs have been limited to date, with SMEs often excluded from direct financial support through energy and climate policies due to their "smaller carbon footprints, heterogeneity, limited resources and reduced regulatory compliance" compared to larger businesses[6]. For example, while the UK's Energy Savings Opportunity Scheme mandates firms to undertake energy savings assessments every four years to identify tailored and cost-effective measures to deliver energy and carbon savings, companies with under 250 employees or under £44m in turnover are exempt. This exemption means that SMEs miss out on the opportunities for energy savings associated with regulatory compliance.

Funding available to support SMEs with the implementation of decarbonisation measures has also largely been made available through devolved administrations and local governments, with subsequent geographic gaps in availability, for example with technical assistance and grants from Business Energy Scotland[7], discounted loans from the Development Bank of Wales[8] and grants for energy efficiency measures in the West of England[9]. Support through these schemes is available to SMEs operating in any subsector, which differs from national policy which includes tailored policy support for individual industries (thereby accounting for the different set of challenges and barriers encountered at a sectoral level).

The majority of support for SME decarbonisation has largely been through indirect measures, including tax rebates for certain net zero emission measures through the Enhanced Capital Allowances[10], discounts on electricity bills through the Climate Change Agreements scheme[11] and requirements for landlords of non-domestic private properties to meet Minimum Levels of Energy Efficiency Standards. However, the Government's approach to SME decarbonisation lacks

[6] Why Now's the Time to Scale Business Decarbonisation, UKERC, 2023.
[7] SME Loan Scheme, Business Energy Scotland
[8] Green Business Loan Scheme, Development Bank of Wales
[9] Green Business Grant, West of England Combined Authority
[10] Claim Capital Allowances, UK Government
[11] Climate Change Agreements, BEIS

a joined-up strategy, with policies and actions spread across a number of existing and forthcoming government strategies for specific sectors (e.g., the Heat and Buildings Strategy, Transport Decarbonisation Plan, Clean Power 2030 mission). Given the range of sectors across which SMEs operate, policy interventions will need to be designed effectively to account for challenges at a sectoral level whilst ensuring a coherent, joined up strategy on SME decarbonisation.

UK SMEs also have faced a number of additional challenges to normal business operation in recent years, including the impacts of Brexit and related uncertainty, the disruption of Covid-19 and rising electricity prices in the wake of Russia's invasion of Ukraine in 2022. UK political and policy instability over the last decade has also contributed to this uncertainty. SMEs are particularly exposed to economic disruptions, energy prices and other external vulnerabilities, leading to an estimated 20-60% of small businesses failing in the first three years of operation[12]. Whilst the transition to a net zero UK economy holds the potential for cost and efficiency savings within businesses, policymakers and private financiers will need to ensure that their interventions for SMEs target and address the key barriers to SME decarbonisation to avoid adverse impacts on performance and competitiveness[13].

[12] How Many Businesses Fail in the First Year in the UK? Horne & Genovese, 2022

[13] *Policy Recommendations to Enhance Small-to-Medium-Sized Enterprise Support for Achieving the UK's Net Zero Targets*, Khosravi et al. 2024

Chapter 2: Relevant decarbonisation measures for UK SMEs

UK SMEs operate across a diverse range of sectors, geographies and business contexts, with professional services, manufacturing & construction, and wholesale & retail trade accounting collectively for nearly 70% of all UK SMEs in 2024 (Figure 2)[14]. Unlike companies operating in other sectors (e.g., power generation), the decarbonisation measures that need to be implemented by SMEs are diverse and strongly vary between subsectors in accordance with the distribution of emissions across Scope 1, 2 and 3. For example, the emissions profile of businesses operating fleets of vehicles (e.g., in the logistics sector) will be predominantly Scope 1 emissions, whilst for other businesses the majority of emissions will come from the consumption of electricity to provide heat, lighting and to power industrial processes.

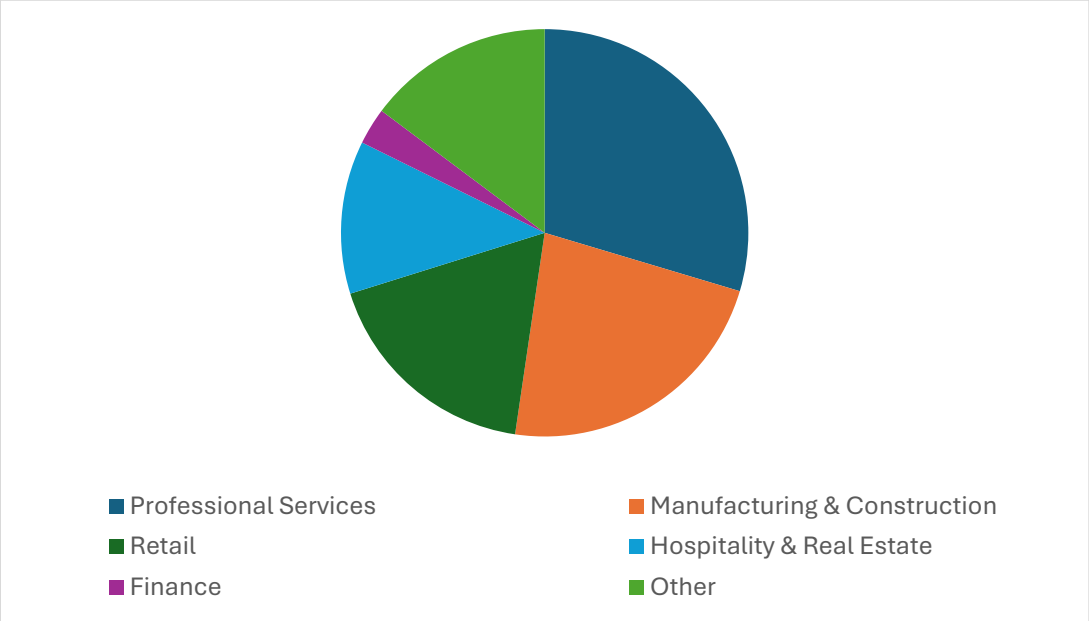

Figure 2 UK SMEs by Sector

Decarbonisation measures suitable for specific SMEs therefore vary in line with the subsector, business processes and the overall distribution of the scope of their emissions. There are three broad categories of decarbonisation measures and technologies available for UK SMEs: 1) clean electricity generation, 2) electrified or low-carbon heating or cooling technologies, 3) technologies available that increase the efficiency of operations (including automation, process optimisation and energy efficiency measures). A complete list of available technologies is mapped in the Appendix.

[14] Business population estimates for the UK, Department for Business & Trade, 2024.

Chapter 3: Unique Challenges to SME Decarbonisation and Policy Gaps

SMEs operating in the UK face a wide range of barriers that hold back decarbonisation efforts[15], driven mainly by their small size, limited internal knowledge and greater exposure to external vulnerabilities. Challenges that must be navigated by SMEs range substantially between businesses, sectors, and geographies. Instead of discussing each individual barrier in depth, this report groups them into three key constraint categories: Knowledge, Capacity and Financial. These were informed by the categories identified by UK Finance[16], though this work chose to make a distinction between internal knowledge on decarbonisation and the capacity & resources for SMEs to implement decarbonisation measures (as the former can often be driven by lack of awareness of the need to decarbonise business operations and related supply chains).

Knowledge-based Challenges

Moderate awareness of net zero: Awareness of the business risks of climate change, and the drive towards net zero, has been growing in both the public and SME space since the UK's Climate Change Act was passed. However, analysis by the British Business Bank has shown that 57% of SMEs are not aware or do not understand the details of the Government's net zero commitments [17]. Whilst the majority of SMEs are aware of climate change, much lower proportions see reducing carbon emissions as a priority for their business (though this can vary substantially by sector).

Limited data and reporting on emissions: SMEs typically struggle to access data on their operations and supply chain needed to support the development of decarbonisation strategies. Gaps, for example, include uncertainty over the main source of operational emissions or the contributions of upstream suppliers. An estimated 87% of UK-based SMEs are not aware of their own carbon footprint[18], whilst 56% of businesses surveyed by the British Business Bank have taken no actions to improve their internal knowledge[19]. Understanding where emissions are in SMEs' value chains is the first step towards implementation of decarbonisation measures, but there have been limited efforts to support SMEs in understanding how to measure their carbon

[15] How can policy better support SMEs in the pathway to Net Zero? Energy Saving Trust, 2022
[16] Unlocking the SME Net Zero Transition, UK Finance, 2024.
[17] Smaller Businesses and the Transition to Net Zero, British Business Bank, 2021.
[18] 9 out of 10 SMEs don't know business carbon emissions, NatWest, 2022.
[19] Smaller businesses responsible for around half of all UK greenhouse gas emissions from businesses, British Business Bank, 2021.

footprint, with emissions reporting requirements excluding SMEs, likely due to concerns over the administrative burdens.

Conflicting tools and methodologies: There are a variety of conflicting tools and methodologies that can be used to gather emissions data, with SMEs struggling to understand the differences and decide which is most suitable to their business[20].

Uncertainties over potential costs and benefits: Many decarbonisation technologies require higher upfront investments than fossil equivalents, and whilst they hold promise in delivering cost and efficiency savings, the exact return on investment is often uncertain and can be difficult to assess without specialist knowledge or experience[21].

Lack of sector-specific recommendations: The UK SME sector covers a broad range of industrial subsectors, processes, business models, and consumer bases. The most appropriate decarbonisation strategy or approach can vary substantially even within sectors, with limited sectoral level guidance impeding efforts by SMEs to decarbonise.

Capacity and Resource-based Challenges

Limited workforce: The vast majority of UK SMEs employ 10 or fewer people[22], meaning that responsibility for decarbonisation efforts is often shared between multiple people. Hesitation around cost means that SMEs are unlikely to hire external consultants.

Difficulties accessing and developing internal expertise: Due in part to the limited headcount of UK SMEs, sustainability skills and knowledge are typically not prioritised in hiring or professional development, with a greater emphasis placed on skills directly related to the SME's core business operations.

Time constraints: Due largely to the small size and "organised chaos" of SMEs, there is often a lack of time that employees in the organisation can allocate to the planning and implementation of decarbonisation efforts. Analysis by the British Business Bank shows that carbon footprint measurement was strongly correlated with employee size and overall turnover, showing that size is a critical limiting factor[23].

Given their limited capacity and the unique barriers - knowledge, resource and finance based - UK SMEs will need additional support to decarbonise at the pace required for the sector to stay

[20] Carbon reporting solutions for UK SMEs, Icebreaker One, 2024.
[21] Financing SMEs for sustainability: Drivers, Constraints and Policies, OECD, 2022.
[22] Business population estimates for the UK, Department for Business & Trade, 2024.
[23] Smaller Businesses and the Transition to Net Zero, British Business Bank, 2021.

in line with national commitments. Despite growing financial support, there is limited awareness of existing support mechanisms, with only 25% of organisations having accessed grants or government funding to assist with net zero transitions[24].

Economic and Financial Challenges

Limited or small profit margins: Uncertainty over the return on investment from sustainability and decarbonisation measures, combined with the typically low financial headroom faced by SMEs, drives a reluctance to invest into substantial measures. 48% of SMEs are already worried about the impact of increased costs and changing economic conditions, rising to 57% for those who actively want to reduce emissions[25].

High upfront costs: The most common barrier to decarbonisation efforts remains the higher cost of low-carbon technologies. Although the costs of technologies such as EVs, heat pumps, and other measures have fallen significantly over the past decade – and are expected to continue declining – their costs remain higher than fossil fuel alternatives. This price gap makes it difficult for businesses to justify investments, particularly when operating under tight profit margins.

Hesitancy over borrowing for investment: Given their size and limited profit margins, SMEs are typically more hesitant to borrow to invest than larger companies – under 50% of SMEs use external finance to fund their investments. When surveyed, nearly 80% of UK SMEs would prefer to accept slower growth than borrow to make investments[26].

High borrowing costs: Due to their size, limited revenue, and higher rates of failure than large-scale enterprises, SMEs in the UK face substantially higher borrowing costs ("costs of capital")**.** Given the high upfront costs of decarbonisation measures, the cost effectiveness of clean technologies against conventional fossil is highly sensitive to the cost of capital. When surveyed by the Bank of England, 55% of SMEs who described that they have invested too little over the past three years cited the reason as that they could not borrow at reasonable costs of capital[27].

Policy and regulatory uncertainty: Changing political focus and support for UK SMEs, especially in recent years, has meant that the certainty of financial support and regulatory requirements has not been guaranteed, driving an additional reluctance by the sector to invest into decarbonisation measures.

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[24] UK Net Zero Business Census Report, UK Business Climate Hub, 2024.
[25] Unlocking the SME Net Zero Transition, UK Finance, 2024.
[26] Identifying barriers to productive investment and external finance: a survey of UK SMEs, Bank of England, 2024.
[27] Identifying barriers to productive investment and external finance, Bank of England, 2024.

Support will also need to come from the rest of the private sector, given growing constraints on public funding. Large organisations can provide support to SMEs by helping to highlight existing funding opportunities and sector-specific best practices, whilst financial institutions have an important role to play in advising SMEs on potential costs and benefits alongside offering private finance mechanisms that help to address the third barrier highlighted above.

Chapter 4: Sector level overviews

In this chapter, we present a brief discussion of the challenges and opportunities for SMEs in three subsectors: a business operating in the food and beverage sector, a professional services company, and a small to medium scale retailing company. These three examples were selected to illustrate and contrast the challenges of and opportunities from SME decarbonisation across the UK.

UK SMEs operating in the Food and Beverage Industry

Overview

The food and beverage (F&B) sector is one of the largest manufacturing industries in the UK, accounting for nearly 16% of the manufacturing workforce[28]. SMEs dominate the sector, accounting for 98.6% of businesses[29]. Businesses operating in the sector are regionally distributed, with strong concentrations in the North West, Scotland, and East Midlands.

Sources of Emissions

The main emissions sources in F&B manufacturing are associated with the agricultural inputs and energy consumption associated with cooking, processing, packing and storage. For many businesses, the largest sources of emissions are from their supply chains, particularly associated with ingredient sources and land use changes.

Opportunities

- Adopting state of the art technologies for energy efficiency and electrified industrial heat can reduce energy wastage across the manufacturing chain, providing cost savings.
- Growing consumer preferences for eco-friendly options means that decarbonising supply and manufacturing chains can offer access to a "green premium" in a growing market.

Challenges

- Energy demands in agriculture are met from non-renewables, particularly petroleum products for non-road machinery, whilst the manufacturing energy demand is principally met through combustion of natural gas[30].

[28] UK SME Landscape and Standardization Research, BSE, 2014.
[29] Food Statistics in your pocket, DEFRA, 2025.
[30] Food Statistics in your pocket, DEFRA, 2025.

- SMEs operating in the sector lack control over suppliers and distributors, posing a challenge to address Scope 3 emissions (which can account for 90-95% of emissions)[31]
- Energy accounts for a small proportion (2-10%) of total production costs across the sector[32], so there is a limited priority to invest into energy efficiency as compared to other sectors.
- Electrification technologies offer opportunities for decarbonisation in many food and beverage manufacturing processes, but the "spark gap" between electricity and gas prices is a barrier to investment into electrification measures[33].

UK SMEs operating in the Professional Services sector

Overview

Professional services constitute a significant part of the UK economy, contributing to 80% of the country's total gross value added in 2023[34]. As with other sectors, SMEs dominate the sector, with businesses distributed across the UK with a concentration in large cities (particularly London).

Sources of Emissions

Emissions by businesses operating in the professional services sector are predominantly Scope 2 and 3, associated with business travel, supply chains and the consumption of electricity for heating, cooling, lighting, and IT equipment in offices.

Opportunities

- Switching to renewable electricity can in some cases reduce both operational costs and emissions.
- Tools that enable measurement of emissions and energy consumption can also enable the reduction of demand from heating, cooling, lighting, and IT equipment in offices.
- Adopting approaches enabled by digitalisation, such as remote working, can also minimise emissions.

Challenges

- The majority of business premises used by professional services firms are rented, meaning that businesses have limited control over purchasing of electricity from clean sources,

[31] The challenges facing food manufacturers on Scope 3 emissions, JustFood, 2022.
[32] Industrial Decarbonisation & Energy Efficiency Roadmaps to 2050: Food and Drink, DECC & BIS, 2015
[33] Industrial Decarbonisation & Energy Efficiency Roadmap Action Plan for Food and Drink, BEIS, 2017
[34] Industries in the UK, Hutton & Zaidi, 2024.

deployment of energy efficiency measures and the use of on-site clean energy technologies (e.g., heat pumps).

- Up to 97% of the total emissions of firms operating in the professional services sector can be associated with the supply chain, which can be a challenge to integrate into procurement decisions (especially in micro-sized enterprises)[35]
- Emissions associated with business travel can be difficult to reduce, especially in cases where clients or consumers require in-person contact and/or the company provides services to global markets.

UK SMEs operating in the Retail and Wholesale sector

Overview

The retail and wholesale sector accounts for a substantial portion of the UK economy, employing nearly five million people in 2025. The sector is also dominated by SMEs, accounting for over 99%, with a large geographic scope across cities, towns, and rural areas.

Sources of Emissions

Energy consumption is primarily associated with lighting, refrigeration and heating systems within stores and the logistics and distribution networks required to supply consumer-facing facilities. With the rising role of digital systems in the sector, IT technologies also represent a non-insignificant share of electricity consumption. As with many other SMEs, the supply chain accounts for a high proportion of emissions alongside downstream consumer use of products.

Opportunities

- Decarbonisation can enable SMEs to appeal to a wider consumer base driven by sustainability values, who may be willing to pay higher prices for products that are less carbon intensive, and compete with larger businesses who tend to have ambitious sustainability commitments.
- Investing in electrification and decarbonisation measures can deliver cost and efficiency savings in the longer term.

Challenges

- Upgrading stores requires substantial upfront investments, some of which have longer payback times which would require accessing lines of finance.

[35] The Professional Services Sector and net Zero, The Responsible Business Network, 2022.

- Addressing emissions associated with the supply chain and downstream consumptions (including food waste) requires innovative approaches to integrating circular economy principles, but emissions are often out of the control of businesses operating in the sector.
- Refrigeration and heating systems need to meet stringent food safety and quality control standards, making implementing new technologies more challenging.
- Consumers may be very sensitive to price changes and so investing in decarbonisation measures partly funded by increases in price may risk loss of competitiveness.

Chapter 5: Intervention Needs and Recommendations

To support SME decarbonisation, the Government will need to adopt a two-pronged strategy: 1) putting in place measures that help ensure that decarbonisation efforts deliver cost and efficiency savings, including through grants and subsidies, and 2) running awareness campaigns to ensure that SMEs are aware of the cost savings and government funding opportunities that they are eligible for. The wider private sector also has a key role to play in supporting SMEs, for example by providing examples of best practice, helping raise awareness of government funding opportunities and, in the case of financial institutions, offering tailored financial instruments to ensure that SMEs can make the investments required for decarbonisation at affordable rates.

SMEs face a distinct set of challenges and opportunities in engaging with net zero, making it difficult for policymakers to design interventions that effectively accelerate SME decarbonisation. The policy framework will need to account for the diverse business models and decarbonisation contexts within the SME sector. To date, government support has largely focused on the UK's largest businesses, particularly those that are energy-intensive, part of industrial clusters, or exposed to international competition, leaving a gap in tailored support for SMEs.

With the correct levels of support and intervention, the UK SME sector could not only decarbonise but could capture and access emerging markets for low-carbon goods and services, boosting domestic competitiveness and delivering economic growth. As discussed earlier in this report, the current policy landscape and approach to SME is insufficient and geographically varied, so setting out a roadmap with sectoral level policy and regulatory priorities will be key to ensuring a joined-up approach that supports UK SMEs.

Addressing Limitations in Knowledge

Recommendation 1: Support UK SMEs in understanding their energy and carbon footprints through subsidised sustainability audits and standardised reporting tools. User-friendly, low-cost tools for carbon accounting and reporting that are designed specifically for SMEs would help businesses with the process of assessing and reporting their own emissions, whilst funding would be provided to subsidise energy and carbon audits for larger businesses operating in the UK SME sector. For example, Business Energy Scotland already provides guidance and free direct consultations with a trained Business Energy Advisor to support SMEs in understanding where energy savings could be made in their operations (finding an average of 24% savings, with £200m saved for Scottish SMEs to date[36]). Findings are prepared in a standardised reporting framework that can be used to support applications for loans and investments into energy-saving measures,

[36] Get Support, Business Energy Scotland

for example. Replicating a similar scheme for the rest of the UK and support carbon assessments would ensure that SMEs are able to understand their energy and carbon footprints.

Recommendation 2: Run public awareness campaigns to inform SMEs about the benefits of decarbonisation and the need to decarbonise. Given the limited number of SMEs that have accessed funding for decarbonisation[37], the impact of expanding existing support schemes or creating new funding pools will be limited. A public campaign is therefore needed to inform SMEs of the available funding opportunities and the opportunities that implementing decarbonisation measures will bring. The Department for Energy Security and Net Zero has initiated a public awareness campaign for heat pumps ("Feel all Warm and Fuzzy Inside"[38]) to increase heat pump adoption and applications for the £7,500 Boiler Upgrade Scheme amongst homeowners in England and Wales. Adopting a similar scheme to enable SMEs to understand what technical and financial support is available would ensure that limited knowledge is no longer a substantial barrier to SME decarbonisation.

Recommendation 3: Review and optimise existing government funding schemes, including the Industrial Energy Transformation Fund (IETF) and Made Smarter Adoption, to ensure more effective use and uptake of public funding. The IETF provides funding for energy efficiency and decarbonisation measures for businesses with high energy usage, whilst the Made Smarter Adoption programme supports SMEs in the manufacturing sector adopt industrial digital technologies. Reviewing existing government schemes such as IETF (which has low levels of adoption amongst SMEs, in part due to reporting and administrative requirements[39]) to ensure that funding is accessible will be key to engagement amongst SMEs. Expanding Made Smarter (e.g., to cover improvements in sustainability enabled by digital technologies[40]) would also support SME decarbonisation.

Addressing Resource and Capacity Limitations

Recommendation 4: Enhance energy efficiency standards for non-domestic rented properties (i.e., business premises). The vast majority of UK SMEs rent their business premises and so have little control over energy efficiency measures in the property[41]. Since 2018, landlords of non-domestic rental properties have only been permitted new tenancies if the property has at least an Energy Performance Certificate rating of E (which was then expanded to cover all properties, even when there has been no change in tenant). The Government has confirmed that it will

[37] UK Net Zero Business Census Report, UK Business Climate Hub, 2024.
[38] *Feel All Warm and Fuzzy Inside, M&C Saatchi and DESNZ, 2025.*
[39] Future of the Industrial Energy Transformation Fund, DESNZ, 2023.
[40] Made Smarter Adoption Research Project, Cambridge Industrial Innovation Policy, 2023.
[41] Property Data Report 2023, Investment Property Forum, 2023.

increase this to an EPC B rating by 2030[42], but moving this target forward and/or providing an interim target[43] (e.g., Grade C by 2027) would help to deliver emissions and cost savings to SMEs that currently do not have control over their energy efficiency levels.

Addressing Financial Constraints

Recommendation 5: Support SMEs in accessing low-cost finance for decarbonisation measures through offering low-cost loans or upfront grants. Whilst many decarbonisation measures offer lower total cost of ownerships through increased efficiency and lower running costs (e.g., heat pumps versus legacy gas boilers[44]), the cost effectiveness of measures is largely dependent on the terms of finance that SMEs can access. High upfront costs are also challenging for SMEs which typically have limited profit margins and already struggle with access to finance. Providing low- or zero-interest rate loans would ensure that SMEs can access the cost and efficiency savings enabled by net zero measures whilst addressing the reluctance to borrow for investment under high interest rates[45]. For example, Business Energy Scotland already provides interest-free loans of up to £100k to SMEs[46], which has helped to deliver investments into energy efficiency measures and localised deployment of renewables. Expanding a similar scheme into England and Wales would support SMEs to access sufficient finance at low costs to make upfront investments. Providing upfront grants for investments into energy efficiency or low-carbon technologies (e.g., electric vans), in a similar way to the £7,500 grant offered to homeowners to support with the cost of heat pumps through the Boiler Upgrade Scheme[47], would also help address the barrier of high deployment and installation costs associated with clean technologies.

Recommendation 6: Review existing approaches to energy taxation and the funding of renewable subsidies to encourage businesses to make investments into decarbonisation measures. Currently, the high price of electricity relative to gas is a significant barrier to widespread electrification. The majority of policy costs, e.g., the funding of some social programmes and renewable support schemes, are loaded onto electricity bills, which is also subject to carbon pricing through the UK's Emissions Trading Scheme (unlike natural gas consumption)[48]. The high electricity-to-gas price ratio in the UK hinders the conversion of efficiency gains from electrification into cost savings, creating an additional barrier to cost-effective decarbonisation. Redirecting the funding for these schemes from electricity bills to a

[42] *EPC B Future Trajectory Implementation*, Department for Business, Energy and Industrial Strategy, 2021
[43] Incentivising investment: driving decarbonisation of SME-occupied premises, Barclays, 2025.
[44] Total cost of ownership of heat pumps and policy choice: the case of Great Britain, Rosenow et al. 2025.
[45] Small business, big impact, EnergyUK, 2023.
[46] SME Loan Scheme, Business Energy Scotland, 2025.
[47] Boiler Upgrade Scheme, UK Government, 2025.
[48] The electricity-to-gas price ratio explained, Nesta, 2023.

mix of gas usage charges and general taxation would better incentivise SMEs to invest in decarbonisation measures.

Recommendation 7: Review the current approach to business taxation to ensure that capital allowances encourage SMEs across multiple sectors to decarbonise. The UK currently allows businesses to claim enhanced capital allowances for investments into low-carbon technologies, reducing the total amount of tax that they pay. However, allowances are limited to a select number of technologies and require purchases to be of new and unused equipment. For example, whilst zero-emissions vehicles are eligible, investments into energy efficient heating, lighting or other building improvements are not eligible for the full enhancement (with certain investments not receiving any tax relief at all), posing a barrier to the decarbonisation of SMEs where a substantial portion of emissions are from operational energy consumption. For many SMEs, including those operating in the services sector, measures that offer cost and emissions savings (e.g., energy efficient lighting) are not eligible for the enhanced capital allowances. Expanding the coverage and support for additional decarbonisation measures and further enhancing their capital allowances (e.g., over 100%) would incentivise SMEs to invest in decarbonisation measures across subsectors[49].

Recommendation 8: Reform the current approach to corporate taxation to encourage SMEs to operate in areas relating to net zero and deliver emissions reductions. The UK's approach to corporate taxation has typically focused on limiting windfall profits (e.g., the Energy Profits Levy enacted on oil and gas companies following Russia's invasion of Ukraine and subsequent gas price crisis). A number of other countries use preferential corporate tax rates to encourage businesses to focus on developing products and solutions relevant to the net zero transition (e.g., Canada has halved federal corporation tax for qualifying zero-emission technology manufacturers[50]). Modifying current corporation tax rates to encourage business operations in low emission sectors would deliver substantial increases in investment. Corporate tax rates could also be linked to emissions reductions to encourage efforts by SMEs operating in sectors that are neither carbon-intensive nor directly associated with clean technologies to reduce operational emissions.

Recommendations for private finance mechanisms

Support will also need to come from the rest of the private sector, given growing constraints on public funding. Large organisations can support SMEs by highlighting existing funding opportunities and sector-specific best practices, whilst financial institutions have an important role to play in advising SMEs on potential costs and benefits alongside offering private finance mechanisms that help to address the third barrier (economic & financial) highlighted above. In

[49] Full power: the role of the energy sector in decarbonising businesses, EnergyUK, 2024.
[50] *Tax and Green Investment*, Confederation of British Industry, 2024.

many cases, the financial sector is best placed to aid with addressing the final barrier but wider challenges of limited access to financial products and services by UK SMEs[51] will also need to be addressed in tandem.

Addressing Limitations in Knowledge

Recommendation 9: Encourage SMEs to make investments into decarbonisation measures, where it makes financial sense to do so. Private financiers are in a unique position because of the large number of SMEs that they reach through the financial products that they offer (e.g., business loans, bank accounts etc)[52]. Banks have a valuable role to play in signposting guidance and support to customers operating in the SME sector, with many banks already offering tools and advice to measure and reduce carbon emissions. Offering tailored support - e.g., financial advice over which decarbonisation measures to invest in and their relative costs and benefits – in tandem with financial products specifically designed for green investments would support SME decarbonisation.

Addressing Financial Constraints

Recommendation 10: Provide tailored financial products for green investments that detail the likely payback or savings enabled by the investment. SMEs are already hesitant to borrow to invest, driven by revenue uncertainty, low profit margins and limited access to capital. These challenges are enhanced by uncertainties over the likely payback periods or future savings from decarbonisation measures. Banks should provide financial products specifically tailored towards net zero measures that provide details or estimates of the paybacks and cost savings enabled by the investment. Ensuring that SMEs have a clear understanding of the future costs and benefits of an investment alongside the impact on emissions will be valuable to decarbonisation efforts. Providing low-cost finance for these measures would also help build demand to make these investments amongst UK SMEs.

[51] Access to Finance Challenge for SME, British Chambers of Commerce, 2024.
[52] Financial Innovation for SME Net Zero Transition, University of Cambridge, 2023.

Chapter 6: Conclusions and Recommendations

The SME sector accounts for nearly 99% of all businesses operating in the UK and is responsible for approximately 36% of total domestic greenhouse gas emissions. Supporting SMEs in deploying decarbonisation measures will be an essential step towards delivering on the UK's legally binding target of achieving net zero by 2050 (or earlier) but is an area that has received limited policy focus to date and lacks a coherent joined up strategy.

This report has identified key barriers that SMEs face in financing and deploying decarbonisation measures across three broad categories of challenges: knowledge based, constraints on internal resources & capacities and economic barriers to upfront investments in decarbonisation measures. To address these barriers, we propose 10 policy and financial interventions that would support SMEs in accelerating their transition towards net zero emissions in the UK. These recommendations are not intended to be exhaustive but are actions that would promote decarbonisation measures consistently across the diverse range of geographies and sectors that UK SMEs operate in. Given the growing pressures on government budgets and the limited uptake of existing grants and subsidy support, our recommendations are focused on addressing the limited knowledge and understanding within SMEs whilst ensuring that price signals from taxation ensure that businesses make decisions that are in line with the UK's climate commitments and goals.

Further analysis could explore sector-specific challenges and opportunities related to SME decarbonisation in the UK, recognising the significant differences in decarbonisation barriers across industrial subsectors. This would help provide sectoral-level guidance for both policymakers and business owners.

Policy Recommendations

11. Support UK SMEs in understanding their energy and carbon footprint through subsidised sustainability audits and standardised reporting tools.

12. Run public awareness campaigns to inform SMEs about the benefits and need to decarbonise.

13. Review and optimise existing government funding schemes, including the Industrial Energy Transformation Fund (IETF) and Made Smarter Adoption programme, to ensure more effective use and uptake of public funding.

14. Enhance energy efficiency standards for non-domestic rented properties (i.e., business premises).

15. Support SMEs in accessing low-cost finance for decarbonisation measures through low-cost loans or upfront grants.

16. Review existing approaches to energy taxation and the funding of renewable subsidies to encourage businesses to make investments into decarbonisation measures.

17. Review the current approach to business taxation to ensure that capital allowances encourage SMEs across multiple sectors to decarbonise.

18. Reform the current approach to corporate taxation to encourage SMEs to operate in areas relating to net zero and deliver emissions reductions.

Private sector led initiatives

19. Encourage SME clients to make investments into decarbonisation measures, where it makes financial sense to do so.

20. Provide tailored financial products for green investments that detail the likely payback or savings enabled by the investment.

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Annex I – Methods

Collation of findings from existing analysis from across the academic and grey literature base was done through a rapid evidence review (REA), selected for its value in providing high-quality evidence within the cost and time constraints[53]. The evidence base on the challenges facing UK SMEs in decarbonisation was rapidly reviewed and evaluated, drawing heavily on existing surveys and stakeholder engagement. The REA followed a series of three steps: 1) a systematic search of databases using Boolean combinations of relevant keywords, 2) categorisation, prioritisation and analysis of the evidence, including an appraisal of methodological quality, and 3) collation and evaluation of existing evidence to identify key themes, trends and conclusions. Elsevier Science Direct was used for academic literature; whilst Google was employed as a first step in identifying grey literature and specific websites hosting relevant material on which additional searches can be performed.

Annex II – Technologies and measures relevant for SME decarbonisation

Table 1 Potential decarbonisation technologies in the SMEs

Technology Categories	**Specific Potential Technologies**
Technologies to set a required temperature	Heat pumps, Ground Source Heat Pumps (GSHP), Air Source Heat Pumps, Radiant Heating (Wet or Dry Systems), solar heat, electric steam crackers, district heating, heating with biomass (wood-chips), Combined Heat and Power (CHP) Boilers Electro-heating technologies: Radiofrequency (RF) heating, Microwave heating, Microwave-assisted drying, Ohmic heating, Indirect resistance, Infrared and induction heating techniques, Pulsed electric field processing Freeze concentrators

[53] Rapid Evidence Assessments: A guide for commissioners, funders and policymakers, Universities Policy Engagement Network, 2024.

Cleaner energy technologies	Solar Panels, Wind Turbines, Liquefied Petroleum Gas (LGP), BioLPG, Solar Water Heating System (SWHS), Biomethane, biomass boilers
Smart technologies	Smart meters, Demand response (the response to price changes or incentive payments), Energy storage (including the use of electric vehicles), Integrated building management systems, Smart appliances (such as smart heating controls), Smart lighting systems, Smart meters, Big Data in logistics and transportation, Fleet management,
Other Technologies with specific functions	Electrified non-thermal processing technologies LED lighting, EV, Pulsed electric field processing, Pulsed light processing, High voltage electric field, cold plasma and ozone processing, Ultrasonic and megasonic processing, High pressure processing (HPP), Membrane processes

(Sources: [54,55,56,57])

Table 2 Potential decarbonisation technologies in the FBI

Technology Categories can be used in FBI	**Specific Potential Technologies**
Technologies to set a required temperature	Biomass energy sources, solar thermal heating, and geothermal heat pumps, combined heat and power Heat recovery techniques Microwave drying and heating, advanced oven technologies (including electric ovens)

[54] Rasif, E., Leggett, K. L. & Ivory, C. (2024) The Most Appealing Steps Towards Decarbonisation for SMEs in the UK. In: Scholz, S.G., Howlett, R.J. & Setchi, R. (eds.) Sustainable Design and Manufacturing 2023. Singapore: Springer, pp. 139–148.

[55] Atuonwu, J. & Tassou, S. (2021) Decarbonisation of food manufacturing by the electrification of heat: A review of developments, technology options and future directions. Trends in Food Science & Technology, 107, pp. 168–182.

[56] Hechelmann, R.-H., Paris, A., Buchenau, N. & Ebersold, F. (2023) Decarbonisation strategies for manufacturing: A technical and economic comparison. Renewable and Sustainable Energy Reviews, 188.

[57] Sovacool, B. K., Bazilian, M., Griffiths, S., Kim, J., Foley, A. & Rooney, D. (2021) Decarbonizing the food and beverages industry: A critical and systematic review of developments, sociotechnical systems and policy options. Renewable and Sustainable Energy Reviews, 143.

	Membrane emulsification, Impingement air flow freezing, Vacuum cooling, Microwave heating, Air cycle refrigeration, Ammonia refrigeration, Superheated steam drying, Infrared heating, Radio frequency heating, Thermoacoustic heat engines, Hydraulic refrigeration, Acoustic refrigeration, Electrocaloric refrigeration, Optical refrigeration
Cleaner energy technologies	Onsite steam, electricity, and heat production, via distributed generation (PV, Wind farm, biogas), co-generation
Automation	Automation and robotics, Automatic switch
Process optimisation	"Pinch technology," the configuration of whole processing lines, major plant units, and equipment layout. Advanced robotics and automation, Machine vision, Remote condition monitoring, Hyperspectral imaging, foreign body detection by spectrometry, Laser sealing, Bernoulli grippers, 3D (three dimensional) printing of food, Biosensors Avoiding idle equipment, better production scheduling, and correctly sizing and maintaining controls Motors or steam networks optimisation, Voltage Optimisation equipment
Energy-efficient technologies	EV, LED lighting, Energy management digital platforms, utilities specifications, Advanced refrigeration insulation, mechanical and thermal vapor recompression techniques, Pulsed light/UV in packaging, Cold plasma, Aseptic filling, Pulsed UV in food, pulsed electric field in kitchens, Magnetic refrigeration, Modified atmosphere packaging, Electroosmotic dewatering, Advanced starter cultures, Advanced surfactants, Heat free shrink wrapping, Single homogenization/mixing (SHM) valves, Electric arc discharging, Coflux

Sources: [58,59,60,61,62])

[58] Belvoir Farm (2025) Sustainability. Available at: https://belvoirfarm.co.uk/sustainability/ [Accessed 12 March].

[59] Nairn's (2025) Playing Our Part. Available at: https://nairns.com/playing-our-part [Accessed 12 March].

[60] Llaeth Y Llan (2025) Sustainability. Available at: https://villagedairy.co.uk/sustainability/ [Accessed 12 March].

[61] Bio-Kult (2025) Sustainability. Available at: https://www.bio-kult.com/about-biokult/sustainability.list [Accessed 12 March].

[62] Danone (2023) DANONE CLIMATE TRANSITION PLAN. Available at: https://www.danone.com/

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