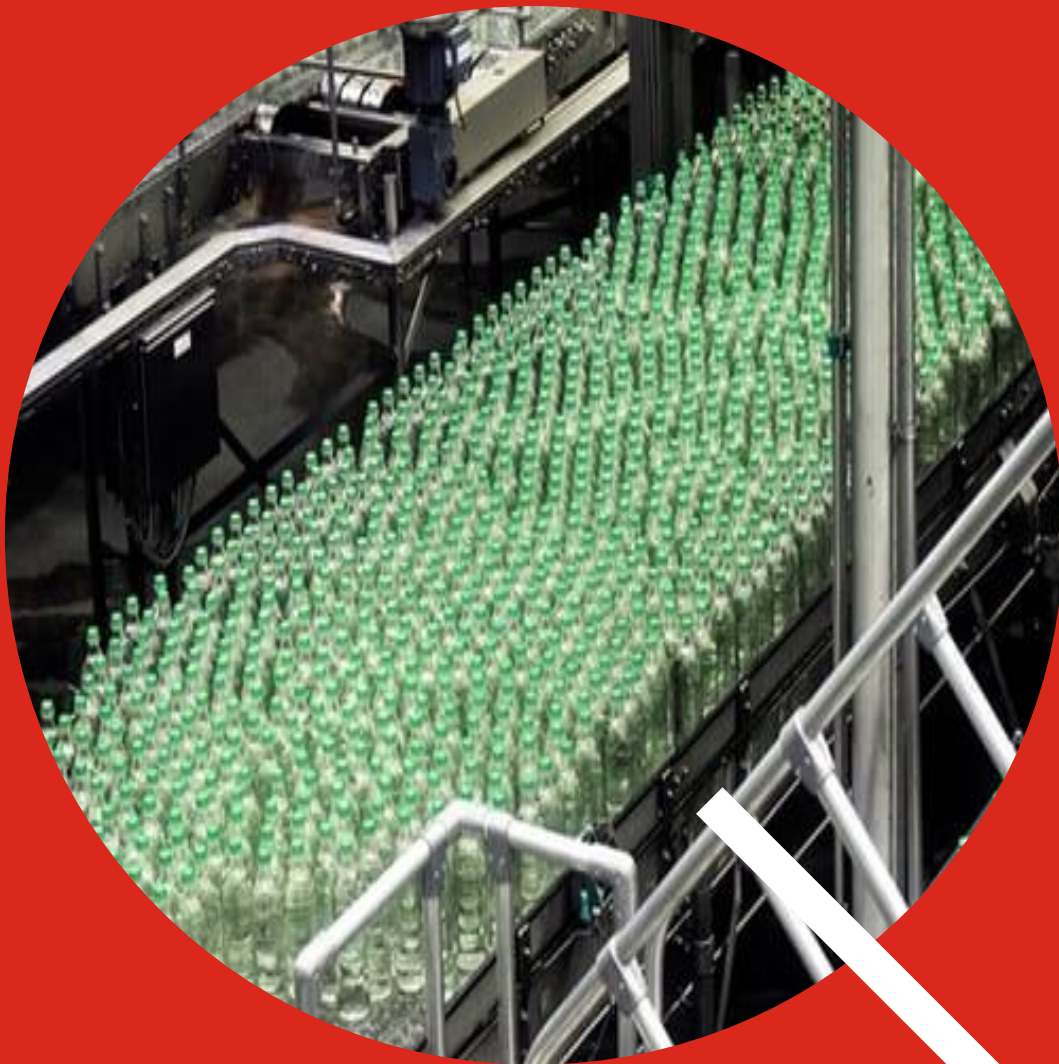


# Supporting green manufacturing

**Analysing the characteristics and objectives of firms in relation to the environment**

The Manufacturing Growth Programme



**SQW**

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## Summary of key messages

- There is a need for SME manufacturers to engage in environmental management to contribute to the achievement of net zero targets, both locally and across the UK. However, relatively few SMEs have taken forward environmental and sustainability projects under the Manufacturing Growth Programme (MGP) – 4% of projects compared with 30% of projects in marketing and 24% in productivity.
- There are some sectors within manufacturing that perform better on the GROWTHmapper diagnostic's environmental theme. These include sectors where addressing environmental issues have been a greater concern due to regulations or other imperatives. These are chemicals, packaging and paper, textiles, and food and drink. Some sectors performing less well include transport equipment and engineering, which have been seen in policy terms as important for the innovation and competitiveness of the UK economy.
- Improving efficiency and reducing cost were the main motivators for SME manufacturers to invest in environmental projects in the MGP. These were often related to fundamental support to aid monitoring and measurement of resource use and waste, which could help contribute to efficiency gains and business resilience (especially in light of escalating energy costs).
- As well as these critical building blocks, there is a need to encourage more SMEs into more advanced projects that will help them plan for and achieve net zero.
- Whilst the analysis does not support targeting future support programmes based on company characteristics, screening could help to focus resources on SMEs that are: able to achieve greater environmental benefits; at key transition points in their development, and ambitious in relation to net zero.

## Introduction

The Manufacturing Growth Programme (MGP) is the UK's largest business support programme for SME manufacturers. It has supported over 4,328 manufacturing SMEs since 2016, creating 6,166 new jobs and £264m of GVA in local economies.

The programme provides tailored support to companies, assisted by a business diagnostic, GROWTHmapper, which is a self-assessment undertaken by companies on their relative strengths and weaknesses in 10 key business areas<sup>1</sup>. As well as support to create growth plans

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<sup>1</sup> The themes are: managing change; environmental; finance; leadership; market knowledge; people and skills; products and service innovation; productivity and capacity; quality and continuous improvement; and strategy.

and access to advice, the programme provides financial support towards the cost of bringing in an external expert to help their plans through delivering internal business projects.

If the UK and individual local areas are to meet net zero targets, there will be a need for SMEs and in particular manufacturing SMEs to engage in environmental management. However, relatively few (under 4%) of the projects that SMEs have taken forward under MGP were under the 'environment and sustainability' theme. This report seeks to improve the understanding of how company leaders believe that their businesses are performing in relation to environmental management and the projects that they have undertaken to improve their performance in this area. The programme collects a range of business data for each firm supported, including from the business diagnostics, firm characteristics and details of projects implemented. This rich dataset can be used to provide insights on companies' perceived abilities, their performance and characteristics, and their priority activities. Specifically, the report aims to:

- investigate which characteristics of manufacturing SMEs are associated with higher or lower environmental performance as reported in the GROWTHmapper diagnostic
- summarise the activities and objectives that SMEs take forward and seek to achieve to improve their environmental performance.

The analysis has two parts. Part one sets out the findings from the quantitative GROWTHmapper data from over 2,000 companies and the characteristics of those companies. Different analytical techniques were used to identify key findings from the data at the firm level, and in particular what was statistically significant. It is important to note that the environmental performance scores are self-assessed and based on responses company leaders provide to questions related to the firm's environmental policies, measurement and review processes.

The second part examines the nature and objectives of 133 projects taken forward by companies to improve their environmental performance through MGP. It draws on analysis of the headline descriptions and objectives of the 133 projects.

The report concludes by considering the implications for providing support to manufacturing firms to improve their environment performance.

# Analysis of GROWTHmapper and MGP data

## Firm characteristics and their environmental scores

### Sector analysis and observations

The average GROWTHmapper score for environmental performance was 6.43 (out of a possible 10), and scores were found to vary from sector to sector. Out of 18 sector groupings, those with the highest and lowest average scores are recorded in Table 1. The sectors that perform better appear to be those where addressing environmental issues has been a greater concern, for example due to regulation (chemicals), drivers to use recycled inputs or produce recyclable products (e.g. packaging and paper) and imperatives to reduce resource use (e.g. textiles). It is notable that some sectors performing less well include transport equipment and engineering, which the UK's *Innovation Strategy*<sup>2</sup> identifies as being important to developing the UK economy, and so will need to have a competitive SME base.

**Table 1: Environmental theme score by sector groupings**

| Sectors that do better                                                                                                                                                    | Sectors that do worse                                                                                                                                                                                                                                             |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> <li>Chemicals and refining</li> <li>Food and drink</li> <li>Packaging, paper and print</li> <li>Textiles, clothing, leather</li> </ul> | <ul style="list-style-type: none"> <li>Software/IT</li> <li>Furniture, carpentry, joinery and other wood products</li> <li>Transport equipment (aerospace, automotive, rail, etc.)</li> <li>Metals and other basic metal products</li> <li>Engineering</li> </ul> |

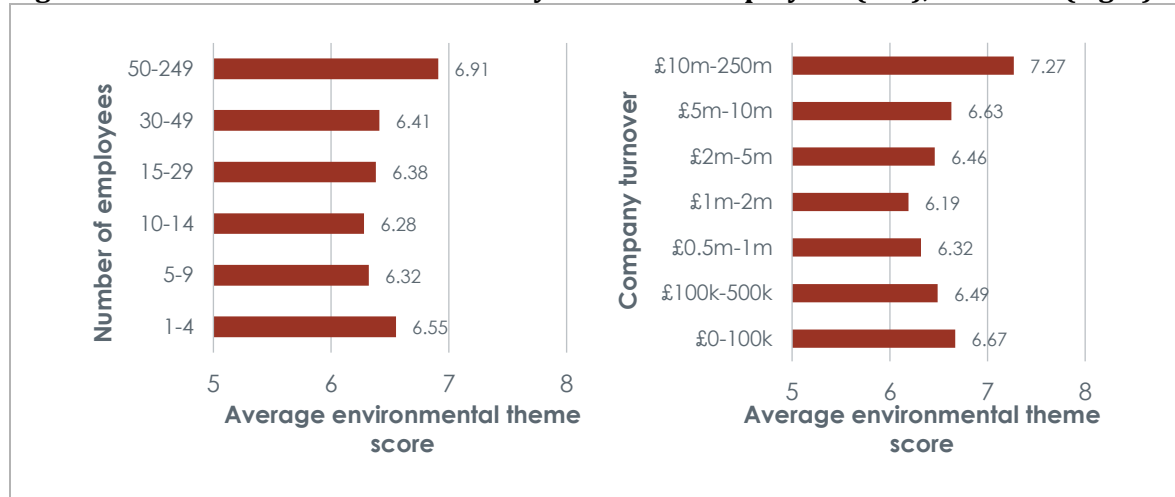
*Source: SQW analysis of GROWTHmapper data*

### Size of firms

We did not find that companies' environmental performance improved with increasing size except for the largest SMEs, medium-sized companies (with 50-249 employees or >£10m turnover), which had **higher average environmental scores**, as depicted by Figure 1. The largest SMEs are likely to be best positioned to adapt their business practices to be more sustainable, for instance because they have reached a certain scale that enables them to employ specialist staff and invest in improving environmental performance. The analysis also shows a dip in performance as companies grow from micro to small in size. Whilst these size bands were not lower in terms of statistical significance, we would expect that businesses will face challenges as they transition from simple, easy-to-manage operations to more complex organisational structures.

<sup>2</sup> BEIS (2021) UK Innovation Strategy: leading the future by creating it

**Figure 1: Environmental theme score by number of employees (left), turnover (right)**

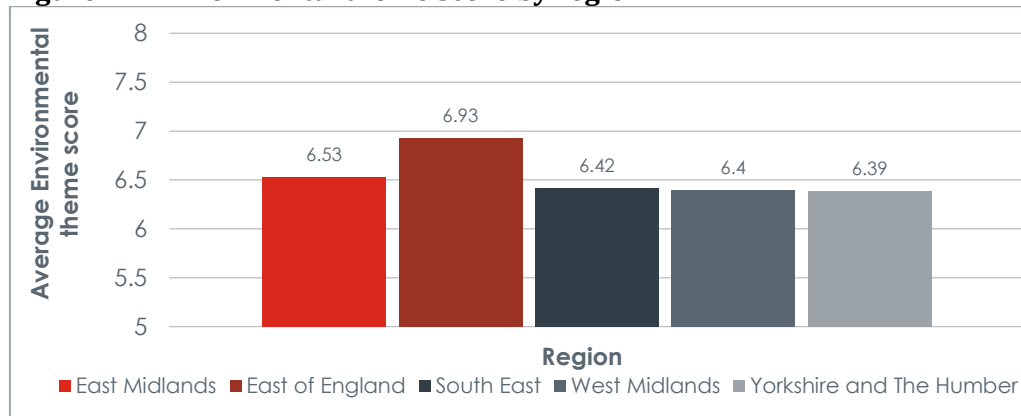


Source: SQW analysis of GROWTHmapper data

### Regional effect – East of England

Companies in the East of England were found to have a higher average score for environmental performance than companies in the other four regions considered (East Midlands, South East, West Midlands and Yorkshire & Humber)<sup>3</sup>. Whilst this can be explained in part by other variables such as the presence of businesses from sectors with higher average scores, our regression analysis indicates that there remains a statistically significant regional effect even once these variables are factored in. This may be due to company characteristics that are not considered in the dataset, such as the specific markets or points in the supply chain that they operate in, or the established preferences of company leaders that may have been influenced by previous local or regional support.

**Figure 2: Environmental theme score by region**



Source: SQW analysis of GROWTHmapper data

<sup>3</sup> Note that the analysis used the five English regions in which the MGP is delivered. This provided suitably sized sub-groups for analytical purposes, and avoided overlaps between Local Enterprise Partnership geographies.

## Correlations with other areas of business performance

**Firms that rate themselves higher on the environmental theme are more likely to rate themselves higher in the remaining nine business areas examined by the GROWTHmapper diagnostic – quality and continuous improvement, leadership, market knowledge, strategy, productivity and capacity, finance, people and skills, products and service innovation, and change management.**

The highest correlations were with change, productivity and capacity, and quality and continuous improvement. This is likely to reflect related issues between the environment (which includes monitoring energy use and waste) and a desire to optimise processes and efficiency, as well as having strong capability to manage change initiatives across the business.

## Environmental projects

### Sectors

‘Environment & Sustainability’ projects make up only 3.8% of the projects taken forward by companies supported by MGP. The three largest categories of projects are marketing/market knowledge (30% of projects), productivity and capacity (24%), and quality and continuous improvement (14%), reflecting a desire by most manufacturing SMEs to focus on initiatives that deliver short-term business benefits.

Whilst environmental projects were taken forward by businesses across manufacturing, three sectors had notably higher proportions of environmental projects:

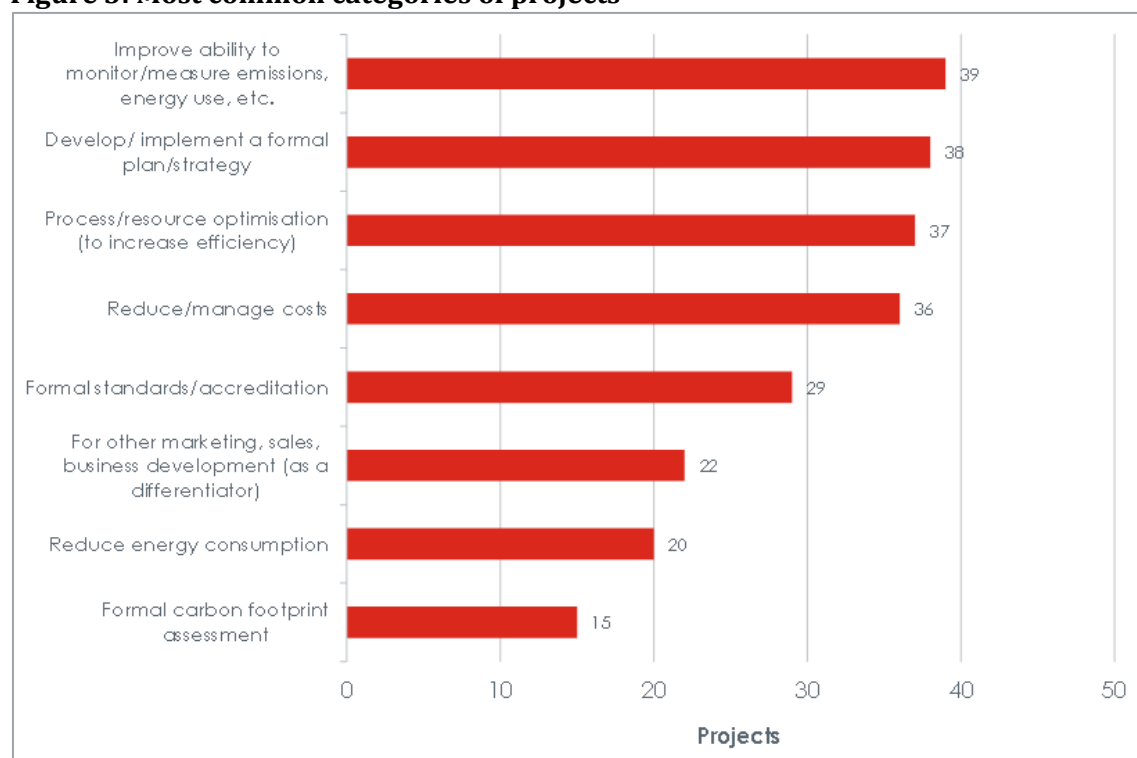
- Renewables: 27% of projects
- Chemicals/Refining: 8% of projects
- Metals: 8% of projects.

### Project drivers

We examined the descriptions of environmental projects to try and draw out the motivations for the SME to undertake the project. The most common project motivations were related to **fundamental issues around efficiency and costs, i.e. making efficiency savings, reducing use of resources and improving processes** (see Figure 3). This is perhaps unsurprising as we know from other work that manufacturers particularly focus on efficiencies and reducing inputs to maintain competitiveness. These inputs represent a significant proportion of the cost of production, in particular in the recent and current context with rising costs of materials and energy that have reduced profit margins. Notably, **there were a number of firms undertaking projects for marketing purposes by using sustainability as a ‘differentiator.’**

The least common motivations were: shaping/developing the market (1 project), creation of by-products that could be sold (1), develop workforce skills/capabilities in relation to sustainability (2), and circular flows/use of waste in internal processes (3).

**Figure 3: Most common categories of projects**



*Source: SQW analysis of MGP data. Note that projects could be classified to multiple themes and sub-themes*

### Follow-on projects

Of the manufacturing SMEs that undertook an environment project there were 21 companies that undertook a second or follow-on project. This is too small a sample size to draw conclusions about general trends. However, from a review of the project motivations, companies generally wanted guidance on measurement and improvement of their environmental practices for their first project. Some of these motivations were again common in second projects, but there were also some that reflected a more fundamental shift towards net zero or were more specifically focused on an issue such as carbon footprint measurement or leadership capabilities.

## Implications for support

In designing support for manufacturing SMEs to improve their environmental performance, there are three key implications that we draw from the analysis.

- **There is no strong rationale for targeting support on the basis of company characteristics:** The analysis indicates that there is need for support on environmental



issues across the manufacturing base. Having said that, to ensure that programme resources are used efficiently there may be a case for focusing greater efforts on: i) companies with the potential for achieving greater environmental benefits, whether due to sectoral or business-specific issues; ii) companies at key transition points in their growth and development; and iii) those with high environmental ambitions. Initial screening and assessment could be used to test the potential and so volume of support that SMEs receive to improve environmental performance.

- **Improving efficiency and reducing cost are the main motivators for SME manufacturers to invest in environmental projects:** A high proportion of companies are likely to require fundamental support to aid their monitoring and measurement of resource use and waste, with potential outcomes associated with efficiency gains and business resilience (especially in light of escalating energy costs). These are often strong drivers for small manufacturing businesses. The project categorisation shows that there is demand for this kind of support, and the GROWTHmapper data indicate sizeable proportions of companies that do not know how much energy they use and do not have actions in place to reduce this (35% of firms), and/or do not regularly review their business operations to identify how to use resources, water and energy more efficiently (41% of firms)<sup>4</sup>.
- **Whilst fundamental issues of efficiencies and cost reductions are a key draw, there is an important message to push SMEs further in considering environmental issues:** A large number of environment and sustainability projects related to basics around making efficiency savings, reducing use of resources and improving processes. These can be used as a platform for furthering SME planning for net zero. In addition, whilst there were some projects relating to how the environment could also be used as a differentiator, there were very few associated with reuse, recycling, innovation and capability development.

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<sup>4</sup> The percentages of firms reported here relate to the percentage of firms where at least one respondent said that they do not carry out the relevant activity.



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