

## A Prioritisation Guide for More Sustainable Manufacturing Processes

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**Abstract :** To attain sustainability goals, the manufacturing industries must assess and improve their processes, adopt the latest technologies, and ensure minimal environmental impact. Ongoing debates claim that the definition of sustainability and its assessment is vague. Companies struggle with understanding which processes they should prioritise and necessitate a methodology to aid decision-making. For that reason, our investigation focused on defining a prioritisation guide to help to manufacture engineers identify areas of a facility to prioritise de-carbonisation efforts based on existing sources of data. The authors at the University of Sheffield Advanced Manufacturing Research Centre (AMRC) worked with a range of major businesses, including Food and Drink (Moy Park), Automotive (Nissan), Aerospace and Defence (BAE, Meggitt, Leonardo, and GKN) and Technology (Accenture and Intellium AI). Collected information has been integrated into a prioritisation guide framework that helps process comparison and decision-making. The framework developed in this study aims to ensure that companies have guidance on where to focus their efforts whilst striving to fulfil their environmental and societal obligations.

**Keywords :** decision making, sustainability, carbon emissions, manufacturing

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