



Pro-environmental enterprise support: Developing a framework to unlock the potential of SMEs in sustainability transitions.

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Expert ID	Location of the project	Years of experience
Expert 1	Birmingham	6
Expert 2	Dublin	3
Expert 3	Nottingham	5
Expert 4	Derby	10
Expert 5	York	25
Expert 6	Oxford	4
Expert 7	Hull	10
Expert 8	Leicester	7
Expert 9	Maidstone	10
Expert 10	Portsmouth	8
Expert 11	Chesterfield	20
Expert 12	London	4
Expert 13	Dublin	5
Expert 14	Brighton	10
Expert 15	Liverpool	5
Expert 16	Liverpool	5
Expert 17	Liverpool	12
Expert 18	Portsmouth	8
Expert 19	Liverpool	5
Expert 20	Brighton	7
Expert 21	Brighton	7

Project Focus

Energy Efficiency

Energy Efficiency

Energy Efficiency, Eco-innovation, Business Growth, Supply Chain

Energy Efficiency, Business Growth

Energy Efficiency, Eco-innovation, Business Growth

Eco-innovation, Business Growth, Urban Development

Energy Efficiency, Business Growth

Energy Efficiency, Business Growth, Supply Chain

Energy Efficiency, Eco-innovation, Business Growth, Supply Chain, Resource efficiency

Energy Efficiency, Eco-innovation, Business Growth

Business Growth

Energy Efficiency

Energy Efficiency

Business Growth, Eco-Innovation

Pro-environmental Business Support

Eco-Innovation

Eco-Innovation, Business Growth

Business Growth

Eco-innovation

Social Justice, Environmental Policy

Business Growth

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Professional/academic background	Participation: e-Delphi/focus group
academic	E-Delphi and Focus Group
professional	E-Delphi and Focus Group
professional	E-Delphi
professional	E-Delphi and Focus Group
academic	E-Delphi
professional and academic	E-Delphi
academic	E-Delphi and Focus Group
professional	E-Delphi and Focus Group
professional	E-Delphi
academic	E-Delphi
professional	E-Delphi and Focus Group
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Position	Area of business support	Mean rating
1	Eco-Innovation	4.75
2	Environmental Capability	4.31
3	Entrepreneurial Learning	4.17
4	Value Proposition	4.16
5	Multi-stakeholder engagement	4.05
6	Environmental Strategy and Leadership	3.94
7	Framework visual representation	3.92
8	Greening of Supply Chains	3.86
9	Clean Growth Skills	3.83

For Peer Review

Position	Area of business support	Mean rating
1	Eco-Innovation	4.75
2	Framework visual representation	4.36
3	Environmental Capability	4.31
4	Environmental Strategy and Responsible Leadership	4.25
5	Greening of Supply Chains	4.18
6	Entrepreneurial Learning	4.17
7	Value Proposition	4.16
8	Clean Growth Skills	4.08
9	Multi-stakeholder engagement	4.05

For Peer Review

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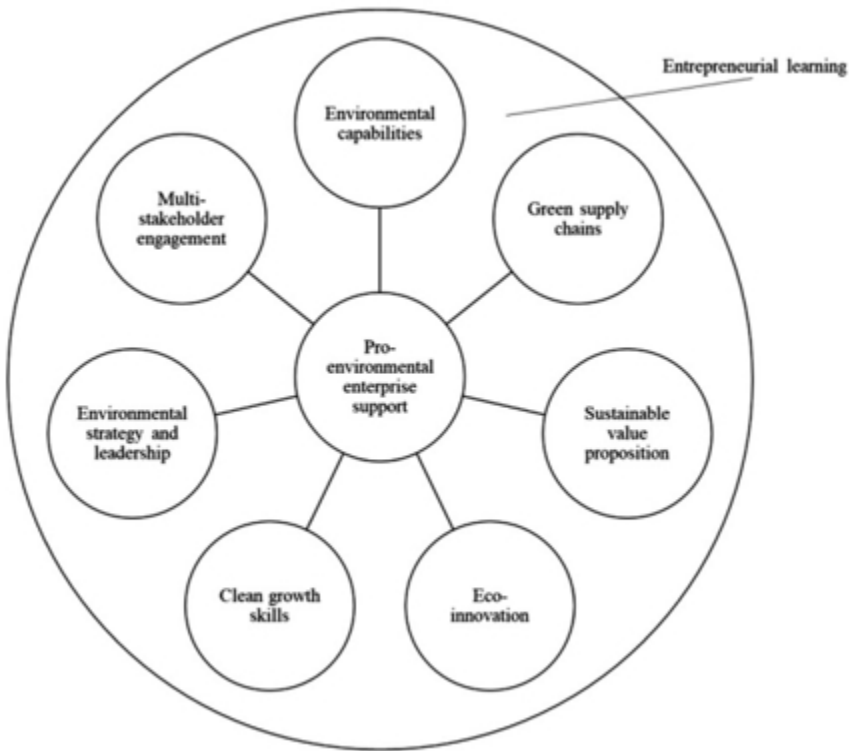


Figure 1 Pro-environmental enterprise support – key ingredients (an initial view) – Source: Paterson et al. (2022)

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Figure 2 A framework for pro-environmental enterprise support: A refined view

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Pro-environmental enterprise support

Pro-environmental enterprise support: Developing a framework to unlock the potential of SMEs in sustainability transitions.

Abstract

Although entrepreneurship is well recognised as a crucial element in fostering economic development and growth, it is yet to be viewed as a significant force in sustainability transitions. Public policy related to the performance and growth of small businesses has, to date, paid little attention to the support mechanisms that help SMEs build capacity towards sustainable development. This paper offers a framework of pro-environmental enterprise support developed through a two-round e-Delphi study, followed by a 2.5-hour virtual focus group involving 21 experts across the spectrum of business support agencies, local authorities, and EU-funded projects delivering pro-environmental enterprise support in England. The findings indicate that support for pro-environmental SME capacity building includes attention to; eco-innovation, environmental strategy, environmental capability development, responsible leadership, sustainable value proposition, greening of supply chains, and clean growth skills. The study also concludes that support programmes and interventions need to be more attuned to the specifics of entrepreneurial learning; the challenges small business face in accessing, capturing, and utilising resources; and that broadening the scope and reach of pro-environmental support programmes needs to be matched by the competences of business support professionals.

Keywords – Enterprise Support, Sustainability Transition, Entrepreneurial Learning, Delphi study, SMEs

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Introduction

Small and medium-sized enterprises (SMEs) play a significant role in global economies, despite their historical underappreciation in addressing environmental challenges. In Europe, SMEs employ 66% of the total workforce and produce about 75% of the total industrial output (Rotar et al., 2019; Fresner, 2010; Chatzistamoulou and Tyllianakis, 2022). Moreover, SMEs contribute substantially to global greenhouse gas emissions, industrial pollution, and total industrial waste, accounting for 50% of global greenhouse gas emissions and 64% of industrial pollution (International Trade Centre, 2021; OECD, 2021; Mitchell et al., 2011). In the UK, SMEs contribute to 50% of business emissions, and one-third of SME expenditure on energy is wasted through inefficient practices (British Business Bank, 2021; Blundel et al., 2021). However, recent studies recognize that despite their environmental footprint, SMEs can drive environmental solutions by pioneering new green industries and generating eco-innovations, particularly in local and emerging market contexts (Paterson et al., 2022; Koirala, 2018).

A low-carbon future needs to include SMEs given their crucial role in the economy (Rotar et al, 2019, Fresner, 2010 Chatzistamoulou and Tyllianakis, 2022), their environmental impacts (OECD, 2021, Koirala, 2019), and their capability to generate and employ clean technologies (OECD, 2017, Chatzistamoulou and Tyllianakis, 2022, Paterson et al, 2022). In this sense, many SMEs already play an active role in minimising environmental impact whilst at the same time taking advantage of clean growth. This transition has been facilitated by the various entities offering enterprise support for SMEs. Koirala (2019) identified 230 technical assistance programs in the EU, including programmes that provide access to information, case studies linked to resource efficiency measures, and tailored face-to-face services.

However, there is a meagre enterprise support literature that provides little by way of conceptualising the nature, characteristics, operationalisation, and challenges of pro-environmental enterprise support programmes. This study sets out to address the following research questions: 1: what is the scope of pro-environmental enterprise support? And 2: what are the characteristics of pro-environmental support interventions beneficial for the effective engagement of SMEs in sustainability transitions? This paper is based on two rounds e-Delphi and a focus group exercise with enterprise support professionals. It goes on to develop a framework that conceptualises pro-environmental enterprise support and explores the challenges of its implementation.

The paper begins by setting out the theoretical framing of business support interventions that contribute to improved environmental performance in SMEs. The state of business support is reviewed with a particular focus on support interventions targeting environmental performance in SMEs in England. We then outline an initial conceptual view of the framework for pro-environmental business support. The methodological framing of our study is based on deploying the Delphi technique to test and refine the framework. A more refined view of the business support framework toward environmental outcomes is

1 Pro-environmental enterprise support

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3 then proposed. We conclude by summarising contributions to theory and practice as well as providing
4 recommendations to business support, policy, and scholar communities.
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6 **Enterprise support toward sustainability transitions**

7 The literature in Sustainability transition emphasises the need for a tailored and robust support for
8 enterprise to fulfil its pivotal role in sustainable development (Keijzers, 2002). The emergence of the
9 net zero agenda, as a manifestation of sustainability transition policies, is garnering increasing attention
10 from scholars in both sustainability and enterprise development. Fenna and Marix-Evants (2023)
11 highlight the urgency of building the place leadership and capacity at a local government level to
12 support place-led and inclusive net zero transition. Innovation eco-systems that support open green
13 innovation is argued to be of importance in supporting smaller businesses in sustainability transitions
14 (Nylund et al., 2021). There is a growing literature on the role of digital (Mazumdar et al., 2023); data-
15 sharing and open-source performance measurement technology for enabling sustainability transitions
16 (Tan, 2023).
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18 In relation to pro-environmental enterprise support, studies confirm financial as well as environmental
19 benefits of energy efficiency programmes as the most wide-spread form of pro-environmental business
20 support (Baranova & Paterson, 2017, Hampton et al. 2019); the role of revolving funding mechanisms
21 for simulating investment in EE programmes (Goudson et al., 2015) and SME behaviours, constraints,
22 and attitudes towards the programmes (Bradford and Fraser, 2008). External environmental pressure
23 supported by the programmes providing opportunities for green exploratory learning and radical green
24 innovation are positively linked (Cui and Wang, 2022) Increasingly, place-based business support
25 towards net zero transition is argued as a mechanism for bridging place-policy-practice nexus gaps in
26 supporting pro-environmental businesses (Baranova, 2023).
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28 Although business support programmes were delivered by local government and or LEP, university
29 settings are recognised as important arenas for the development of low-carbon and pro-environmental
30 goods and services (LCEGS), access to green supply chains, and growth in renewables energy
31 technology markets (Prochorskaite, 2014; Fichter & Tiemann, 2018). However, Baranova et al. (2020)
32 report a lack of coordination of pro-environmental support at a regional level and deficiencies in the
33 design of support interventions. Holt & Howard (2000) argue for a closer focus on sector-specific, local
34 provision, and integrated environmental business support services at a regional level. Nevertheless, pro-
35 environmental enterprise support often lacks a place-based focus and relevance to local and regional
36 sustainability transitions (Baranova et al., 2020). This is compounded by a dearth of both conceptual
37 and empirical basis for the configuration of pro-environmental enterprise support as a necessary lever
38 for sustainability transition.
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Support interventions facilitating pro-environmental enterprise practices in SMEs

The authors began to design their own EU-funded regional support programme (ERDF) for pro-environmental SMEs in 2015 (The D2N2 Low Carbon Project 2016 – 2022, Carney Green, 2019). To successfully address this, the research team reviewed existing academic research in enterprise support for pro-environmental SMEs but quickly agreed with Conway (2014), who notes the lack of attention paid to the nature of SME support provision focused on sustainable business improvement. Whilst reviewing the literature on interventions supporting pro-environmental practices and improvements in the environmental performance of SMEs, we identified eight areas which informed the development of the framework:

1. Sustainable value proposition
2. Environmental capabilities
3. Greening supply chains
4. Eco-innovation
5. Environmental strategy and leadership
6. Multi-stakeholder engagement
7. Clean growth skills
8. Entrepreneurial learning

We discuss these areas briefly below, mindful that each has Generawell-developed literature.

Sustainable value proposition

Following the ‘triple bottom line approach’, Patala *et al.* (2016) define sustainable value propositions as a ‘promise on the economic, environmental and social benefits that a firm's offering delivers to customers and society at large, considering both short-term profits and long-term sustainability’. Further, Romero and Molina (2011) argue that ‘value creation is a collaborative process with partners, suppliers and customers that come together in close relationships within collaborative networks that aggregate knowledge, resources and activities in “value constellations” to co-produce value’ (2011, p.450). Therefore, the development of a sustainable value proposition requires continuous attempts from owners/managers to align value creation with emerging economic, environmental, and social demands of the communities they serve.

Environmental capabilities

Environmental capabilities are those that allow a firm to reduce its ecological footprint (Baranova and Meadows, 2017) and are crucial to the success of its environmental strategy (Rugman and Verbeke, 1998; Klassen and Whybark, 1999; Aragon-Correa and Sharma, 2003; Buysse and Verbeke, 2003). Examples of environmental capabilities include resource efficiency skills, carbon foot printing, and circular economy practices.

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Green supply chains

Supply chain pressure offers a valuable means of influencing the environmental behaviour of SMEs. Environmental awareness in global supply chains also affects which suppliers a firm is willing to use, so suppliers receive pressure from buyers to reduce impact (OECD, 2018). In this perspective, green supply chains (GSCs) aim to minimise their environmental impact and maximise resource efficiency related to material acquisition, processing, packaging, storage, transportation, product use and final scrapping (Srivastava, 2007). GSCs specifically focus on designing environmentally friendly supply chains by reducing waste, reducing costs, and guaranteeing the achievement of sustainability benefits and competitive advantages (Tumpa *et al.*, 2019).

Eco-innovation

Eco-innovation relates to environmental aspects of product and service design, and the marketing strategies (Achmad *et al.*, 2023) to reduce environmental impact or enhance firms' sustainability. In this perspective, SMEs can contribute to the low carbon transition through various other means beyond eco-innovation alone. SMEs hold great potential to create innovative solutions for green products, services, and sustainable business models but often require external support to address their eco-innovation challenges (Kanda *et al.*, 2018; Klewitz *et al.*, 2012).

Pro-environmental business support projects can play a crucial role in bringing together key players, promoting the exchange of experiences and knowledge, and facilitating collective action necessary to drive innovation processes (Matschoss and Heiskanen, 2017). Apart from eco-innovation, SMEs can influence supply chains, advocate for policy changes, adopt sustainable practices in their operations, and facilitate the adoption of low-carbon technologies among their peers. Therefore, it is crucial to broaden the perspective on SME involvement in the low carbon transition beyond eco-innovation to fully harness their potential for sustainability.

Environmental strategy and leadership

Environmental strategy (ES) is understood as a set of activities that mitigate a firm's impact on the natural environment (Walls *et al.*, 2011). From a business perspective, ES comprises environmental measures for energy efficiency and resource conservation that can lead to lower costs and better profit margins (Nejati *et al.*, 2014). The ES has a direct link with responsible leadership (Kerr, 2006).

The United Nations define responsible leadership as "... the global exercise of ethical, value-based leadership in the pursuit of economic and societal progress and sustainable development (and ...), the art of motivating, communicating, empowering, and convincing people to engage with a new vision of sustainable development and the necessary change that this implies" (Szczepańska-Woszczyzna *et al.* 2015). In an enterprise context, responsible leadership is about the integration of social, environmental and ethical interests with human rights and consumer concerns with business operations driven by core strategy in close collaboration with key stakeholders (EC, 2011).

1 Pro-environmental enterprise support

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3 *Multi-stakeholder engagement*

4 The role of the multiple stakeholders in the success of environmental strategies has been considered by
5 several studies (Buysse & Verbeke, 2003; Fineman & Clarke, 1996; Sharma & Henriques, 2005). As
6 discussed earlier, stakeholder networks are argued to be even more important for SMEs than for larger
7 firms in enhancing environmental practices and supporting innovation (Halila, 2007). Multi-stakeholder
8 initiatives (MSIs) are also seen as important mechanisms for achieving sustainable development goals
9 (SDGs) (UN, 2015). Typically, MSIs involve stakeholders from business, government, and civil society
10 (Selsky & Parker, 2005) and hold the promise of reconciling these groups' divergent interests and
11 perspectives to achieve solutions that are accepted and supported by all (Tengö et al., 2017).
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17 *Glean Growth Skills*

18 Clean growth or green skills are those needed to adapt products, services and processes to climate
19 change and related environmental requirements and regulations that will be needed by all sectors and
20 at all levels of the workforce. Cedefop (2015) defines green skills as “the knowledge, abilities, values
21 and attitudes needed to live in, develop and support a sustainable and resource-efficient society”. They
22 argue the identification, assessment and creation of those skills are essential in transitioning to a low-
23 carbon economy and being able to capitalise on all the social, environmental and economic benefits that
24 this brings.
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31 *Entrepreneurial learning*

32 Entrepreneurial learning (EL) explores how business owners recognise and act upon business
33 opportunities. Taking the definition of entrepreneurial learning as “an experiential process of learning
34 to recognise and act on opportunities and of shared value creation” (Rae, 2017:487), learning towards
35 pro-environmental organisational practices involves action-based as well as formal learning
36 approaches. From the business support perspective, EL offers a useful frame to understand how SMEs
37 learn and, as noted by Paterson et al. (2022), in the arena of pro-environmental SMEs, Enterprise
38 Learning can be an enabler of pro-environmental practices (Conway, 2014), eco-innovations (Brown,
39 2012), and has the potential to inspire other businesses to become more pro-environmental (Knight and
40 Paterson, 2018).
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47 **Conceptual view**

48 Paterson et al. (2022) illustrate our initial conceptual view for the design of enterprise support toward
49 environmental outcomes (presented in Figure 1). It outlines the focus on skills development toward
50 improving environmental performance as well as strengthening the growth potential SMEs towards
51 cleaner growth.
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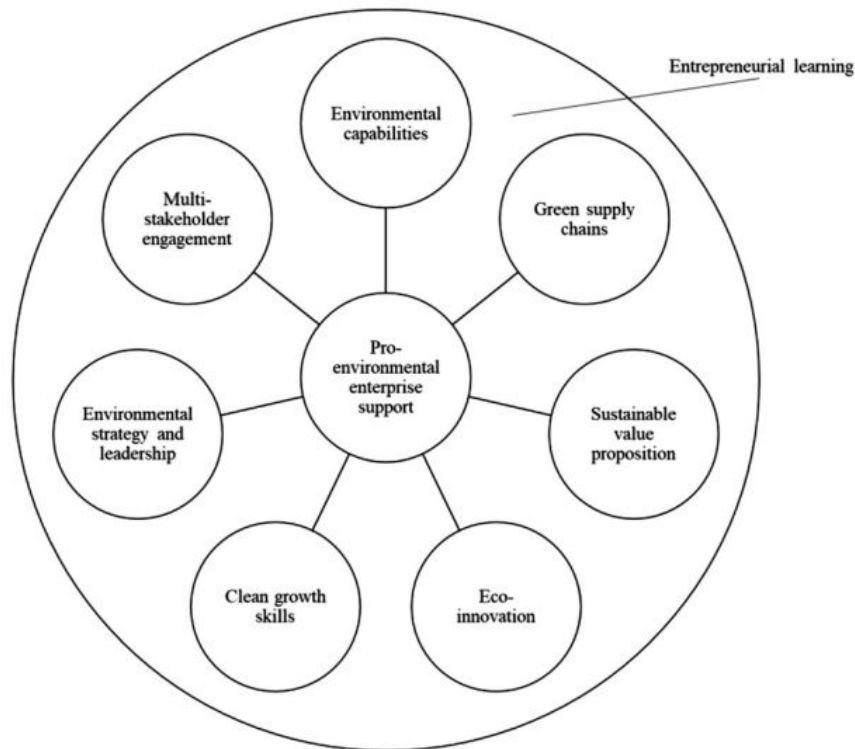


Figure 1 Pro-environmental enterprise support – key ingredients (an initial view) – Source: Paterson et al. (2022)

The figure suggests a combination of support activities aimed at enhancing small businesses' preparedness for improved environmental performance. While these areas are individually well-discussed in entrepreneurial literature, their combined significance is not well-understood. The assumption that the development of a sustainable value proposition is central to business support guided the design of the e-Delphi questionnaire used to validate the framework's features and explore implementation challenges. Through expert input, the Delphi approach assesses the validity of design features of enterprise support aimed at achieving improved environmental outcomes.

Study design and methods

A two-round Delphi study was conducted between December 2019 and May 2020 with 12 experts from business support agencies. It was administered electronically and has been described as e-Delphi by Hasson and Keeney (2011). After results of two rounds of e-Delphi were analysed, a half-day focus group activity was undertaken in early June 2020. The 15 focus group participants included experts from support agencies and university-led business support programmes around low carbon sustainability. The purpose of the focus group was to validate the outcomes of the e-Delphi (Lincoln and Guba, 1985), as well as explore opportunities for operationalising the framework adaptation across enterprise support agencies regionally and nationally.

The overarching rationale for expert selection was grounded in Delphi methodology (Lincoln and Guba, 1985) and prompted the selection of experts from professional and academic backgrounds working in the arena of pro-environmental business support. The inclusion criteria were set as follows: area of

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expertise - provision of business support with an environmental focus including eco-innovation and social entrepreneurship; years of experience – 3 years upwards; location – UK and Ireland; professional background – professional and academic. The breakdown of the experts is presented in Table 1.

Table 1 Experts in Delphi study

Expert ID	Location of the project	Years of experience	Project Focus	Professional/academic background	Participation: e-Delphi/focus group
Expert 1 (E1)	Birmingham	6	Energy Efficiency	academic	E-Delphi and Focus Group
Expert 2 (E2)	Dublin	3	Energy Efficiency	professional	E-Delphi and Focus Group
Expert 3 (E3)	Nottingham	5	Energy Efficiency, Eco-innovation, Business Growth, Supply Chain	professional	E-Delphi
Expert 4 (E4)	Derby	10	Energy Efficiency, Business Growth	professional	E-Delphi and Focus Group
Expert 5 (E5)	York	25	Energy Efficiency, Eco-innovation, Business Growth	academic	E-Delphi
Expert 6 (E6)	Oxford	4	Eco-innovation, Business Growth, Urban Development	professional and academic	E-Delphi
Expert 7 (E7)	Hull	10	Energy Efficiency, Business Growth	academic	E-Delphi and Focus Group
Expert 8 (E8)	Leicester	7	Energy Efficiency, Business Growth, Supply Chain	professional	E-Delphi and Focus Group
Expert 9 (E9)	Maidstone	10	Energy Efficiency, Eco-innovation, Business Growth, Supply Chain, Resource efficiency	professional	E-Delphi
Expert 10 (E10)	Portsmouth	8	Energy Efficiency, Eco-innovation, Business Growth	academic	E-Delphi
Expert 11 (E11)	Chesterfield	20	Business Growth	professional	E-Delphi and Focus Group
Expert 12 (E12)	London	4	Energy Efficiency	professional	E-Delphi
Expert 13 (E13)	Dublin	5	Energy Efficiency	professional	Focus Group
Expert 14 (E14)	Brighton	10	Business Growth, Eco-Innovation	professional	Focus Group
Expert 15 (E15)	Liverpool	5	Pro-environmental Business Support	professional	Focus Group
Expert 16 (E16)	Liverpool	5	Eco-Innovation	academic	Focus Group
Expert 17 (E17)	Liverpool	12	Eco-Innovation, Business Growth	professional	Focus Group
Expert 18 (E18)	Portsmouth	8	Business Growth	professional	Focus Group

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Expert 19 (E19)	Liverpool	5	Eco-innovation	academic	Focus Group
Expert 20 (E20)	Brighton	7	Social Justice, Environmental Policy	academic	Focus Group
Expert 21 (E21)	Brighton	7	Business Growth	academic	Focus Group

The experts were asked to anonymously indicate their levels of agreement with a few statements. The questionnaire addressed the eight areas of pro-environmental enterprise support (Figure 1), plus the effectiveness of the visual representation of the framework. There were two rounds of online questionnaires, followed by feedback to participants that included a statistical summary of the group's responses and adaptation of relevant sections.

The study involved experts with an average of nine years of experience in pro-environmental business support. Most of their projects were located in South England and the Midlands, with fewer projects in the North of England and one in Dublin. Participants were selected through professional networks involved in national and EU-funded projects, as well as connections with the policy community, including local councils and regional Local Enterprise Partnerships. Energy efficiency and business growth were the most common areas of expertise among the experts, while supply chain, eco-innovation, urban development, and environmental policy were less common. Most came from professional backgrounds. Six experts participated in both the e-Delphi and focus group, five participated only in the e-Delphi study, and nine participated only in the focus group.

The e-Delphi research process followed the main characteristics of the generic Delphi method, including iteration and multiple stages, expert panel anonymity, controlled feedback, and the opportunity for experts to revise their answers (Powell, 2003; Hsu and Standford, 2007). While the traditional Delphi method aims to achieve consensus for decision-making, variations like the 'Policy Delphi' focus on identifying and evaluating potential solutions for a selected issue, revealing arguments for and against each solution (Turoff, 1970, 2002). In our study, we deployed the Policy Delphi approach to gather opinions from a diverse group of experts working in various levels of business support, allowing for representation of pro-environmental support mechanisms across different funding programs, projects, and institutions. Each stage of the study will be detailed further.

E-Delphi Round One

A total of twenty-one experts were approached to take part in the study in November 2019. Twelve agreed to participate and were sent the e-Delphi and necessary research ethics documentation in December 2019. The e-Delphi design had nine sections surveying areas of enterprise support provision including the visual representation of the relationships among the eight areas forming pro-environmental enterprise support (Figure 1). The experts were asked to return their views within two weeks, with most of them meeting the timing requirement. The results of the e-survey were analysed

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using Microsoft Forms functionality followed by statistical analysis of agreement levels and the qualitative answers provided throughout the e-Delphi in the category of ‘other’ responses where applicable. The analysis of data from round one informed the approach and design of the e-Delphi instrument in round two.

E-Delphi Round Two

In round one of the study, twelve respondents participated, but only six agreed to participate in round two. This 50% participation rate from the original selection is common in Delphi studies with two rounds (Keeney et al., 2001). In this round, experts were asked a focused set of questions about the areas that attracted the least agreement in round one. These areas included: environmental strategy and leadership; greening of supply chains and clean growth skills. In addition to these areas, a graphic representation was also explored in this round. Like the first round, experts were asked to return their responses within a period of two weeks. The response data were analysed and informed the final stage of the study; a focus group with a panel of experts exploring the outcomes of the study after two rounds of e-Delphi, applicability of the framework developed and future directions of research.

Focus Group: As a final stage of the study, the focus group fitted well with study aspirations to explore practical value of the framework and its operationalisation. The focus group was originally planned to take place on a university campus in March 2020. However, due to the coronavirus outbreak and government guidance during the Covid-19 pandemic that included social distancing restrictions, the focus group was organised online. Being mindful of the possibility of a high attrition rate common in Delphi studies and the potential reduction in participation due to the coronavirus outbreak, the panel of experts was expanded thus broadening sectoral and regional representation of experts.

The recruitment of the focus group participants was based on opportunity sampling (Patton, 2002). We invited all the respondents from the first and second rounds of e-Delphi and we widened the expert panel by inviting experts from broader professional networks and newly established business support projects since the study began. The new participants allowed us to reflect on the findings from an outsider’s perspective and to incorporate new viewpoints into the results.

A total of fifteen experts participated in the focus group in June 2020, with nine experts not involved in the e-Delphi rounds and five participating in both the e-Delphi and the focus group. The focus group sessions were recorded with the participants' permission. Later, the recordings were transcribed verbatim and analysed to explore the theoretical and practical contributions of the framework. The research team presented the results of the study, including validation and correction of the results, and facilitated discussions among the experts regarding issues of transferability, implementation challenges, and adaptation of the framework (Lindstone and Turoff, 1975).

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Analysis

In the first round of the survey, respondents were presented with nine sections exploring different areas of pro-environmental business support as well as the effectiveness of the visual presentation of the conceptual framework (Figure 1). The experts were asked to indicate levels of agreement utilising a five-point Likert scale. Table 2 shows the mean rating for each of nine areas explored. Five areas attracted a fair level of agreement with a mean rating above 4. Out of these five, a high level of agreement was reached in relation to two areas in particular – eco-innovation (mean rating of 4.75) and environmental capability at 4.31 mean rating. Four areas out of nine surveyed attracted lower levels of agreement with the following mean ratings respectively: environmental strategy and leadership (3.94); visual representation of the framework (3.92); greening of supply chains (3.86) and clean growth skills (3.83).

Table 2: Relative ranking of pro-environmental business support areas– round one e-Delphi

Position	Area of business support	Mean rating
1	Eco-Innovation	4.75
2	Environmental Capability	4.31
3	Entrepreneurial Learning	4.17
4	Value Proposition	4.16
5	Multi-stakeholder engagement	4.05
6	Environmental Strategy and Leadership	3.94
7	Framework visual representation	3.92
8	Greening of Supply Chains	3.86
9	Clean Growth Skills	3.83

The qualitative comments after the first round of Delphi indicated the need to improve the visual representation of the framework as well as explore the agreement level in the categories that attracted lower mean ranking, namely: environmental strategy and leadership, greening of supply chains; clean growth skills. The second round of e-Delphi also sought to confirm the value of eight elements of pro-environmental business support proposed in the first round of e-Delphi. The outcomes of the second round of e-Delphi (Table 3) show improved mean ratings for the areas surveyed.

Table 3: Relative ranking of areas of pro-environmental business support – round two e-Delphi

Position	Area of business support	Mean rating
1	Eco-Innovation	4.75
2	Framework visual representation	4.36
3	Environmental Capability	4.31
4	Environmental Strategy and Responsible Leadership	4.25
5	Greening of Supply Chains	4.18

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6	Entrepreneurial Learning	4.17
7	Value Proposition	4.16
8	Clean Growth Skills	4.08
9	Multi-stakeholder engagement	4.05

In round two of the e-Delphi, increasing levels of agreement among experts were observed for the selected areas surveyed. While the first position remained unchanged, the visual representation of the framework garnered higher agreement levels. Environmental strategy and responsible leadership, as well as greening of supply chains, showed improved mean ratings and occupied positions four and five, respectively. Entrepreneurial learning, value proposition, and clean growth skills held lower positions, with multi-stakeholder engagement occupying the final position. The analysis now shifts to examining e-Delphi responses and focus group materials for each element of pro-environmental business support.

Position 1: Eco-innovation

The experts consistently showed a high level of agreement in relation to the eco-innovation element in both rounds of e-Delphi. There was a high level of agreement that SMEs need support with eco-innovation (mean rating < 4.5) and this type of support is different from large organisations (mean rating < 4.8). When exploring the aspects of business support for eco-innovation that need most attention, the panel agreed that innovation management in SMEs and a collaborative approach to innovation development through internal and external partners are most important, each attracting mean ranking over 3.5. Whilst considering internal and external drivers for eco-innovation, the panel demonstrated a high level of agreement towards internal drivers, with the most important being a company's Corporate Social Responsibility (CSR) stance and availability of technical competences for innovation. Among the external drivers for eco-innovation, competition was deemed the most important factor with an agreement mean rating over 4.0.

The experts were asked about the most effective channel for fostering eco-innovation in SMEs. The channel that attracted the highest agreement mean rating was the supply chain (4.42) followed by science parks (4.17) and incubators (4.08), whilst universities attracted least agreement (2.08) from the panel. Expanding further on the role of supply chain in innovation, E1 highlighted the importance of non-competitive component supplies in driving product and service improvements, fostering innovation, and enhancing environmental outcomes across the supply chain and individual SMEs. This finding aligns with previous studies emphasizing the role of supply chains in SME innovation (Al-Hakimi et al., 2021; Bag et al., 2022; Assumpção et al., 2022). Despite universities positioning themselves as innovation hubs, they have yet to gain substantial credibility as channels for eco-innovation. Additionally, regulatory pressures were identified as significant drivers for innovation, with emphasis on the importance of appropriate regulations, monitoring processes, and governance (E12).

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The focus group evidence confirmed that a focus on eco-innovation is a strong aspect of pro-environmental business support. In this arena, universities emerge as strong players due to their subject expertise and availability of testing facilities ‘to help SMEs innovate, particularly in the areas of engineering and science, but also across other disciplines’ (E7). E20 noted that ‘many SMEs are unsure about what "innovation" means, so using other ways of describing it can be helpful’. The experts talked about the link between eco-innovation and low carbon/green skills shortages which often limit the innovation potential of SMEs in the areas of low carbon technologies and renewables.

Position 2: Visual representation

The visual presentation scored more highly in the second round of e-Delphi, due to improvements made as a result of the feedback received in round one. Improvements included the re-positioning of environmental learning, removing numbering and clarity in the visual re-representation of the framework.

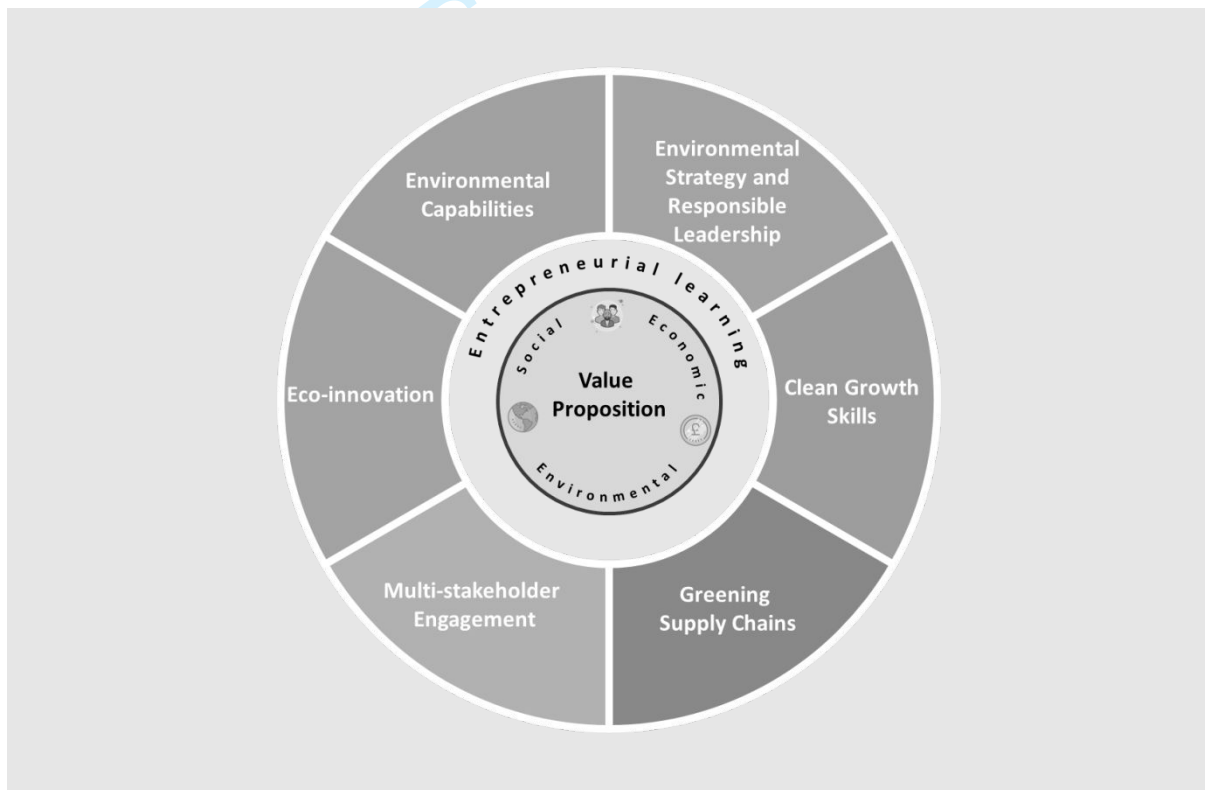


Figure 2 A framework for pro-environmental enterprise support: A refined view

The focus group participants found the visual representation of the framework to be effective in two main ways. Firstly, it enhances the offering of business support in energy efficiency and environmental practices. Secondly, it helps business owners compartmentalize what is more important for them regarding the business support offer. The design of the framework received positive feedback regarding the clarity it provides for businesses looking to strengthen their capabilities and respond to emerging

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green market niches and the evolution of low-carbon industries and sectors. E15 and E17 emphasised the importance of a sustainable value proposition in both business growth strategy and the operational makeup of the company for sustainable enterprise. The initial focus of enterprise support is on helping businesses articulate their sustainable value proposition, which can then inform the design and delivery of support interventions across various areas of business operations.

Position 3: Environmental capability

Environmental capability emerged as a significant element of pro-environmental business support, garnering the second-highest level of agreement from the expert panel across two rounds of e-Delphi. In identifying the most significant aspects of environmental capabilities for development in SMEs, three areas received similar levels of agreement: waste management, energy efficiency, and recycling and re-use, each with mean ratings of 4.83, followed closely by resource efficiency at 4.75. Sustainable procurement and sustainable supply chain management skills were rated slightly lower, with a mean rating of 4.5. Skills related to pollution prevention, circularity, and environmental management received mean ratings above 4, while skills in biodiversity preservation and regeneration attracted the least agreement among the participants. Experts from academic backgrounds expressed more scepticism about this aspect of environmental capabilities compared to those from professional backgrounds. One expert emphasised the importance of a holistic approach to environmental capability development, highlighting the need for a better understanding of the whole picture before breaking it down into individual elements. This underscores the significance of a holistic assessment of environmental capabilities as a starting point for understanding the requirements for pro-environmental enterprise support, which, in turn, informs the design and delivery of support interventions.

Position 4: Environmental strategy and responsible leadership

This aspect of pro-environmental enterprise support attracted weaker agreement from the experts in the first round of e-Delphi. The overall mean rating for this area was just below four at 3.94. However, with further attention to this area, the mean rating improved to 4.25. The highest level of agreement in this area was around the role of business support in developing sustainable business models (4.8) and support with the development of business strategies which balance competitiveness and environmental aspirations (4.6). The experts also showed a high level of agreement about the role of pro-environmental enterprise support in the development of responsible leadership at a firm level. There was far less agreement about the role of enterprise support in responsible leadership development. Overall, this aspect of support attracted more agreement from the experts in the second round of e-Delphi when the questions were directed to a 'desired' state of the pro-environmental enterprise support rather than a present state. This is consistent with a narrow focus on pro-environmental support for energy efficiency (Baranova et al. 2020) and the lack of a leadership development dimension in most business support interventions.

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Strengthening the environmental strategy and responsible leadership feature of the framework was confirmed as one of the priority areas for development in business support packages aimed at boosting the pro-environmental orientation in SMEs. E8 observed that this feature presents ‘a great opportunity for collaborative action ... and getting the people who need to be brought in to succeed with collaborative bids and enterprise support programmes’. Many commented that environmental strategy and responsible leadership development are largely omitted from business support programmes and that this feature requires stronger representation to ensure ‘low hanging fruit’ interventions, usually around energy efficiency, ‘stick’ and translate into long-term, concerted and continuous efforts towards small business ‘greening’.

Position 5: Greening of supply chains

In the first round of e-Delphi, this area did not receive strong agreement from the expert panel initially. Despite ample theoretical and empirical evidence supporting the role of supply chains (Prochorskaite, 2014; Fichter & Tiemann, 2018) in driving environmental improvement in SMEs, experts were initially not convinced about its role in pro-environmental enterprise support. While there was high agreement regarding the role of the supply chain in minimising waste and pollution, low levels of agreement were observed regarding its potential to improve SME performance in terms of quality and productivity. Experts indicated low levels of business support provision that actively connects SMEs with supply chains or supports the greening of local supply chains. However, when asked if these elements are desired in the configuration of pro-environmental enterprise support, experts showed high agreement, with a mean rating of 4.5 each. Experts also commented on the challenges of connecting SMEs with supply chains, noting that supply chain engagement is notoriously difficult to establish, and SMEs may feel they have limited control. Additionally, E8 highlighted the potential for behavioral changes as a side-effect of greening local supply chains, suggesting that committing to greening initiatives could lead to comprehensive changes in attitude but noting that the two do not necessarily follow automatically.

When discussing challenging areas of the framework for implementation, greening supply chains attracted a lot of comments. E20 recalled that in the project they lead, the work to support the entry of SMEs into green supply chains included ‘meet the buyer’ events and making links between ‘corporates’ and SMEs to champion innovation. ‘We found this area challenging and difficult because of how hard it is for SMEs to get into corporates and the level of disappointment because corporates take such a long time to make decisions and the SMEs get frustrated’ (E20). Others commented that SMEs rarely feel ‘empowered’ to access unfamiliar supply chains either due to the level of competences required and/ or a lack of resources (most common time) to develop the required competences alongside the day-to-day running of their business. ‘SMEs come to us for impartial knowledge/advice; they want to engage but don't know how to do it’ (E1).

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3 *Position 6: Entrepreneurial learning*

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5 This feature attracted a good level of agreement across the experts, with a mean ranking of 4.17. When
6 exploring the present approach to learning as part of enterprise support provision, the experts indicated
7 high levels of agreement across the following characteristics: Learning that is; rooted in the experience
8 of participants, practical and sector specific, collaborative, and enhanced through knowledge sharing
9 with peers. The aspects seen as problematic were tailoring learning to specific needs of SMEs; learning
10 not always being problem-based; learning taking place in formal settings. The last does not align with
11 the literature on entrepreneurial learning, which suggests that informal settings are particularly
12 beneficial to learning within entrepreneurial networks. (Foster and Brindley, 20).

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15 When assessing the importance of various stakeholders for learning, as part of the enterprise support
16 interventions, the experts agreed that learning benefits from the appropriate competences of business
17 support staff (4.17 mean rating), working with universities (4.42), and NGOs (4.08). The least
18 agreement was reached about the benefits of working with public sector organisations (3.75). This
19 outcome was unexpected as a number of pro-environmental support programmes are delivered either
20 solely by local councils or in partnership with universities and LEPs. The experts commented on the
21 differences in quality of learning experience in generic support programmes and those focused on
22 specific locations and/or technical assistance, for example, low carbon capacity building. E17
23 commented on the opportunity the framework offered in shifting the focus of business support
24 interventions from transactional interfaces to more transformational business support with a focus on
25 learning and capacity building.

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28 *Position 7: Sustainable value proposition*

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30 The experts demonstrated a high level of agreement, at mean rating of 4.3, about enterprise support
31 interventions assisting the development of a sustainable value proposition that balances economic,
32 social and environmental value creation. Despite this response, the elements of enterprise support that
33 drive economic value creation scored the highest agreement level in this category at 4.5 and above,
34 confirming the importance of enterprise support in identifying potential cost saving and resource
35 efficiencies for SMEs (4.6) and providing economic and financial incentives e.g. grants for energy and
36 other forms of capital investment to SMEs (4.5). The other aspects of sustainable value creation, such
37 as environmental performance and social value creation scored less, but still above a mean rating of 4.0.
38 According to E8, the current state of enterprise support lacks a strong evidence-based approach and
39 links to local industrial strategies:

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‘There is an element of enterprise support needing to inform Local Industrial and Clean Growth strategies. It is important to recognise that there won't always be an evidence-base or information around the local economic data regarding low carbon... Many of these elements seem like the traditional model (e.g. grants run by local authorities along with some basic advice leading to LED light replacement). While traditional models like grants and basic advice have shown efficacy, there's recognition of the need for complementary strategies to accelerate sustainability efforts.’ (E8).

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The view that enterprise support should actively inform local industrial strategies is of note, as such an approach would support effective strategy formulation through access to information about small business needs and the support required as well as the readiness required to support regional and national low carbon infrastructure projects such as carbon reduction commitments.

Position 8: Clean growth skills

This aspect attracted the least level of agreement in the first round of e-Delphi. The experts indicated low levels of agreement about the role of enterprise support in supporting green skills agenda at regional and sectoral levels (mean ranking 3.6). Although a skills strategy is commonly part of local industrial strategies, the development of green skills as part of the broader skills agenda is often ill-defined and the role of business support mechanisms largely overlooked. The e-Delphi probed these links and potential to drive green skills development agenda through the enterprise support mechanisms.

The experts showed a low level of agreement that the identification of the current and future skills gaps is evidence-based, commenting that the approach to skills development in the arena of environmental sustainability is not always evidence based. The openness towards 'creative thinking and trial methodologies' was identified as important for decision-making in complex and fast emerging scenarios of sustainability transitions (E12).

Position 9: Multi-stakeholder engagement

Although scoring the lowest agreement rating out of the nine areas surveyed, this area of business support attracted expert agreement with a mean ranking over 4.0 for the majority of questions surveyed. The experts demonstrated agreement about support mechanisms serving as platforms for collaboration towards sustainable enterprise growth, innovation and problem solving (4.0 mean ranking for each). In terms of the effectiveness of such platforms, the highest expert agreement level was for open calls for partnership working and sustainable supply-chain forums (with a 4.42 mean ranking for each) followed by pro-environmental business networks and demand-side/end-user consultation forums (with a mean ranking of 4.33 for each). Eco problem-solving forums attracted the least level of agreement (4.08) with academic experts being more sceptical about the effectiveness of these forums when compared with professional experts.

When assessing the state of current pro-environmental enterprise support, the experts indicated low levels of open dialogue and information sharing amongst various regional stakeholders. The experts signalled moderate levels of stakeholder diversity in the design and implementation of enterprise support (3.75 mean ranking). They also assessed opportunities for SMEs to engage with other businesses from different sectors and sector agencies as moderate, with mean ranking of 3.92. of a blended approach to enterprise support provision, i.e. combining face-to-face with digital delivery

Pro-environmental enterprise support

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3 modes, the experts indicated much room for improvement (with a mean ranking of 3.75) in the current
4 state of enterprise support interventions.
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7 Stakeholder engagement was highlighted as the aspect that often requires substantial efforts from
8 support agencies and projects. Success of engagement is context specific and dependent on the degree
9 of stakeholder readiness to engage. There is a need to design and encourage processes through which
10 engagement is to take place and sometimes stakeholders ‘need to be bought into the processes’ (E8).
11 This requires not only careful identification and selection of the stakeholders to engage with, as part of
12 enterprise support programmes and interventions, but also designing effective processes and platforms
13 for stakeholder engagement. This, in turn, relies on the competences of business support professionals
14 in stakeholder management and facilitation of collaborative SME-stakeholder interfaces.
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Discussion

Pro-environmental enterprise support: scope and reach

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22 The results suggest a need to broaden the scope of enterprise support programmes and interventions to
23 strengthen the role of SMEs in sustainability transitions. As suggested by Paterson et al. (2022) and
24 Ridha et al. (2020), there is a need for targeted support for pro-environmental SMEs, with Paterson et
25 al. (2022) proposing a framework for such support and Ridha et al. (2020) highlighting the potential of
26 pro-environmental behaviour in reducing environmental impact.
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32 This implies a paradigm shift from the prevailing focus on resource efficiency towards sustainable
33 development where the role of the enterprise is seen as one that contributes towards Sustainable
34 Development Goal (SDG) 8 ‘inclusive and sustainable economic growth, employment and decent work
35 for all’ (SDGs, 2015). In this role, an enterprise not only needs to carefully observe its utilisation of
36 resources but also strive to be a contributor to sustainable development by innovating, collaborating,
37 learning and sustainable value generation. To achieve this, enterprise support must ensure businesses
38 are equipped to deliver sustained economic growth, job creation, inclusivity and successful enterprise
39 growth and development whilst also fulfilling pro-environmental and pro-social ambitions.
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46 The proposed framework confirms that enterprise support should focus on building the environmental
47 capabilities of SMEs, enhancing their potential for eco-innovation, and becoming a platform for clean
48 growth skills development whilst advocating that businesses widen their value proposition beyond
49 economic aims, to include environmental and social dimensions. In addition, whilst responsible
50 leadership development has often been considered beyond the scope of traditional enterprise support
51 interventions, increasingly it is coming to the forefront of developing enterprise owners/managers into
52 change-agents for sustainability transformations (Piwowski-Sulej and Iqbal, 2022, Cooper, 2020). Multi-
53 stakeholder engagement, as a vehicle for shared value creation (Porter and Kramer, 2011), also offers
54 opportunities for identifying stakeholder relationships, exchanges and interactions for greater
55 collaborative and mutually beneficial value creation in the context of environmental sustainability.
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Pro-environmental enterprise support

The analysis suggests that the reach of pro-environmental enterprise support programmes needs to extend to include a stronger representation from the following environmental stakeholder groups a) policy community; b) other enterprise support agencies; c) supply chains. The experts commented that local enterprise strategies only weakly articulated business support mechanisms and environmental sustainability targets, were often overpowered by a focus on economic growth (Baranova et al., 2020) and lacked articulation of place-based specifics in strategy formulation and implementation mechanisms. However, as Koirala (2018) demonstrates, business support programmes across the EU can be a rich source of data about the barriers SMEs face when attempting to improve their environmental performance and/or engaging in the clean growth agenda. Programmes can also report on what works well and signpost organisations to showcase the best practice in various sectoral and local contexts. However, a sustainability focused approach to developing environmental ecosystems in regions requires a well-coordinated and collaborative approach across the various business support agencies. Whilst developing such relationships takes time, the literature reports the positive outcomes of ensuring small businesses are effectively supported in the regions (Einiö and Overman, 2020). Support interventions that encourage SMEs' access to local supply chains also have strong potential for encouraging SMEs to adopt a more pro-environmental stance and driving environmental performance improvements (Koirala, 2018), whilst on the other hand, diffusing eco-innovation across supply chains can accelerate sustainability transitions by supplying LCEGS¹ and low carbon and renewable technologies.

Pro-environmental enterprise support: interventions

The analysis of study data confirms the preference towards business-focused interventions when supporting businesses towards environmental sustainability. In terms of the focus of interventions, the experts distinguished between the initial interventions that often target 'low hanging fruit' and then progressing to more specialised, more focused, and more time-consuming interventions:

'Businesses needed a lot of hand holding at the initial stage as they didn't want to spend money on consultancy for that initial direction of travel. You can identify where the low hanging fruit is and when the business started to save money by making improvements in different areas, they are a bit more attuned to putting a little bit of money here and there ...' (E17).

Energy efficiency measures are frequently referred to as "low-hanging fruit" due to their accessibility and effectiveness (Bergmann et al, 2017) As it is suggested by the (European Commission, 2011), energy efficiency and its further increase represent one of the pathways to mitigate climate change. Oyewole et al. (2024), compares the current state of energy efficiency across advanced, emerging, and

¹ LCEGS – Low Carbon and Environmental Goods and Services (ONS, 2017)

Pro-environmental enterprise support

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3 developing economies, pointing out that energy efficiency's impact varies, being strongest in advanced
4 economies and weakest in developing ones.

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7 Regardless of the economic state, energy efficiency measures are often related to investment costs
8 (Brunke et al., 2014). Hence, it is vital in improving accessibility to financial resources. In this
9 perspective, grants were considered important stimuli for businesses to invest in energy efficiency. UK
10 grant schemes typically provided cost savings for SMEs of up to 40% on heating. This made business
11 think 'I'll do it now whilst the grants are there'. Commonly, the grant was a tipping point for putting
12 into action advice we have given them' (E17). This highlights the rationale behind the prevailing
13 paradigm of pro-environmental business support. It emphasises that energy efficiency grants serve as
14 mechanisms for upgrading business infrastructure, reducing costs, and achieving tangible outcomes
15 such as cuts in energy consumption, reductions in carbon footprint, and improvements in productivity.

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18 E15 commented on the importance of trust and a 'holistic' approach in providing business support.
19 Relationship building is important from the business perspective, hence 'when businesses read 'ERDF
20 and 12 hours' – this puts them off straight away'. Having a business support adviser 'who they trust
21 and can work holistically – this is actually a very good way of working'. By working holistically, the
22 expert understood the role of business advice being a 'one-stop' referral system where advisers can
23 refer a business to other projects and business support mechanisms in a designated locality. This ethos
24 of relationship building, trust, and holistic referrals is considered characteristic of effective pro-
25 environmental support interventions.

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28 The experts commented on other examples of effective pro-environmental enterprise support. In
29 relation to decarbonisation interventions, they stated that a format of 'intensive specialist support on a
30 one-to-one basis with SMEs' supported by 'group workshops where an action plan is developed to help
31 them [SMEs] decarbonise and share best practice' was effective (E5). They also stated that enterprise
32 support providers should be 'an honest broker' providing opportunities for networking and
33 collaboration (E6).

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36 The focus group participants spoke about the benefits of adopting a more 'learning-based' and capacity
37 building approach to the design and delivery of business support interventions: 'the smart way will be
38 to approach it [business support interventions] as training and train their staff to undertake the activities
39 they required under our oversight' (E17). The framework introduces an entrepreneurial learning
40 element to the design of business support interventions, recognising the significance of the learning
41 ethos in enterprise support where the specifics of learning in the context of small business are recognised
42 and embedded in the design and implementation of the interventions. This approach was deemed to be
43 important for 'businesses to learn that sustainability is not just about energy management. The business
44 support intervention is offered not as bits, but as a jointed package'. The theme of interlinked elements
45 providing a more holistic view of the sustainability agenda has gained support throughout the study and

Pro-environmental enterprise support

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3 echoes similar empirical studies in the UK and internationally (Bocken and Geradts, 2019, Einiö and
4 Overman, 2020).

Pro-environmental enterprise support: professional competences

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9 A reoccurring theme in the data analysis is the professional competences of the business support
10 professionals and their role in supporting the pro-environmental orientation. E15 argued that ‘the
11 problem with Growth Hubs is that they are often run by people who have been in business for a long
12 time. So, in many ways, it is ‘teaching old dogs new tricks’. In terms of the green agenda, it is about
13 raising awareness and upskilling the staff’ (E15). This echoes comments from the e-Delphi, where
14 experts expressed concerns over the competences of the business support professionals in supporting
15 the green initiatives of small business. Take-up of pro-environmental business support can be improved
16 by hiring ‘specific carbon reduction advisers who bring expertise and instil confidence with small
17 businesses’ (E11).

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24 As the framework for pro-environmental business support advocates the broadening of the enterprise
25 support remit, so does the expertise of business support professionals need to be broadened. Apart from
26 technical expertise, the business advisers will need to be attuned to relationship building, collaborative
27 working and stakeholder management. Alongside the traditional areas of enterprise support focused on
28 growth, marketing and sales and innovation which should all now incorporate sustainability, skills in
29 the areas of environmental management, systems thinking, responsible leadership development and
30 sustainable development are becoming increasingly relevant to the business support offer (Paterson, et
31 al, 2018).

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37 The development of a sustainability mindset of SME owners/mangers (Raby et al. 2017), as well as
38 continuous improvement and action learning philosophy (Segovia, 2010) requires business support
39 programmes with longer-term horizons, flexible and agile support interventions, and a wealth of
40 expertise around environmental sustainability.

Conclusion and Recommendations

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45 The study confirmed several aspects of pro-environmental business support that expand the current
46 focus beyond resource efficiency and eco-innovation. The proposed framework outlines eight areas of
47 capacity building in small businesses linked with a greater focus on entrepreneurial learning. These
48 features form a menu of choices for the design and implementation of business support interventions
49 that aim to strengthen SMEs’ contribution towards Sustainable Development Goal 8 by promoting
50 entrepreneurship that is ready to engage with the opportunities presented by sustainability transitions
51 (UN, 2015).

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57 Drawing on the study findings, we offer the following set of recommendations aimed at enhancing
58 regional pro-environmental support provision.
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1 Pro-environmental enterprise support

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- Design and deliver business support programmes that are focused on capacity building towards sustainability transitions in SMEs. This requires broadening the remit of business support programmes from traditional areas to include interventions that help businesses to develop a sustainable value proposition, effective environmental strategy, and capabilities; responsible leadership and reach out to support the greening of supply chains.
 - Greater recognition of the specifics of entrepreneurial learning is required in the design and delivery of business support programmes and interventions.
 - Creation of collaborative platforms for shared value creation as an opportunity to inspire and connect the SME community. This could support learning, exchange of ideas, eco-innovation, collaboration, and partnership working in tackling the challenges of sustainability transitions.
 - Enhancement of the professional competences of business support professionals to equip SMEs with skills and knowledge to successfully engage with sustainability transitions.

25 For the policy community

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- Engage with and foster collaborative links with the business support community in order to be abreast of the latest trends in small business demands for pro-environmental support packages, skills and resources shortages and how they can be effectively addressed depending on the make-up of specific SME communities in the regions and nationally.
 - Design policy instruments that are practice-relevant and support improvements in the environmental performance of SMEs as well as accelerate SME engagement with the opportunities presented by clean growth.

39 For scholars

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- The authors plan to design a maturity evaluation tool based on the proposed framework that support the review and improvement of pro-environmental enterprise support across various projects and business support institutions. This maturity tool will be pilot tested in the UK before application in other international contexts.
 - We aim to explore the impact of pro-environmental support interventions by type, mode and frequency of interventions. This study, in turn, aims to inform the practice of pro-environmental enterprise support as a significant lever for enabling businesses to lead sustainability transitions.

1 Pro-environmental enterprise support
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3 **References**
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5

6 Al-Hakimi, M.A., Saleh, M.H. and Borade, D.B. (2021). Entrepreneurial orientation and
7 supply chain resilience of manufacturing SMEs in Yemen: the mediating effects of absorptive
8 capacity and innovation. *Heliyon*, 7(10), p.e08145. doi:10.1016/j.heliyon.2021.e08145.
9

10
11
12 Aragón-Correa, J.A. and Sharma, S. (2003). A Contingent Resource-Based View of Proactive
13 Corporate Environmental Strategy. *Academy of Management Review*, 28(1), pp.71–88.
14
15 doi:10.5465/amr.2003.8925233.
16

17
18 Assumpção, J.J., Campos, L.M.S., Plaza-Úbeda, J.A., Sehnem, S. and Vazquez-Brust, D.A.
19 (2022). Green Supply Chain Management and business innovation. *Journal of Cleaner*
20 *Production*, 367, p.132877. doi:10.1016/j.jclepro.2022.132877.
21
22

23
24 Bag, S., Dhamija, P., Bryde, D.J. and Singh, R.K. (2022). Effect of eco-innovation on green
25 supply chain management, circular economy capability, and performance of small and
26 medium enterprises. *Journal of Business Research*, 141, pp.60–72.
27
28 doi:10.1016/j.jbusres.2021.12.011.
29
30

31
32 Baranova, P. (2023). Place-based business support towards net zero: enabling through the
33 place-policy-practice nexus. *Journal of the British Academy*, 11(4), pp.57-95.
34
35

36
37 Baranova, P. and Meadows, M. (2017). Engaging with environmental stakeholders: Routes to
38 building environmental capabilities in the context of the low carbon economy. *Business*
39 *Ethics: A European Review*, 26(2), pp.112–129. doi:10.1111/beer.12141.
40
41

42
43 Baranova, P. and Paterson, F. (2017). Environmental capabilities of small and medium sized
44 enterprises: Towards transition to a low carbon economy in the East Midlands. *Local*
45 *Economy: The Journal of the Local Economy Policy Unit*, [online] 32(8), pp.835–853.
46
47 doi:10.1177/0269094217744494.
48
49

50
51 Baranova, P., Paterson, F. and Gallotta, B. (2020). Configuration of enterprise support
52 towards the clean growth challenge: A place-based perspective. *Local Economy: The Journal*
53 *of the Local Economy Policy Unit*, p.026909422095650. doi:10.1177/0269094220956509.
54
55

56
57 Bergmann, A., Rotzek, J. N., Wetzel, M., & Guenther, E. (2017). Hang the low-hanging fruit
58 even lower - Evidence that energy efficiency matters for corporate financial performance. In
59
60

1 Pro-environmental enterprise support

2
3 Journal of Cleaner Production (Vol. 147, pp. 66–74). Elsevier BV.

4 <https://doi.org/10.1016/j.jclepro.2017.01.074>

5
6
7 Blundel R and Hampton S (2021) How Can SMEs Contribute to Net Zero?: An Evidence
8 Review. Coventry. Available at: www.enterpriseresearch.ac.uk Brunke,

9
10
11 Bocken, N.M.P. and Geradts, T. (2019). Barriers and drivers to sustainable business model
12 innovation: Organization design and dynamic capabilities. *Long Range Planning*, [online]
13 53(4), p.101950. doi:10.1016/j.lrp.2019.101950.

14
15
16 Bradford, J. and Fraser, E.D.G. (2008). Local authorities, climate change and small and
17 medium enterprises: identifying effective policy instruments to reduce energy use and carbon
18 emissions. *Corporate Social Responsibility and Environmental Management*, [online] 15(3),
19 pp.156–172. doi:10.1002/csr.151.

20
21
22 Brown, B. C. (2012) Leading complex change with post-conventional consciousness. *Journal*
23 *of Organizational Change Management* 25(4): 560–575. DOI: 10.1108/MRR-09-2015-0216

24
25
26 British Business Bank (2021) [Smaller businesses and the transition to net-zero. British](#)
27 [Business Bank. Sheffield.](#)

28
29
30 Buysse, K. and Verbeke, A. (2003). Environmental strategy choice and financial profitability:
31 differences between multinationals and domestic firms in Belgium. *Multinationals,*
32 *Environment and Global Competition*, pp.43–63. doi:10.1016/s1064-4857(03)09003-x.

33
34
35 Buysse, K. and Verbeke, A. (2003). Proactive environmental strategies: a stakeholder
36 management perspective. *Strategic Management Journal*, 24(5), pp.453–470.
37 doi:10.1002/smj.299.

38
39
40 Carney Green (2019) Impact Evaluation of the D2EE Low Carbon Project. Derby: Carney
41 Green

42
43
44 CEDEFOP. (2015). *Green skills and innovation for inclusive growth*. [online] Available at:
45 <https://www.cedefop.europa.eu/en/publications/3069#group-downloads> [Accessed 14 Nov.
46 2022].

1 Pro-environmental enterprise support

2
3 Chatzistamoulou, N. and Tyllianakis, E. (2022). Commitment of European SMEs to resource
4 efficiency actions to achieve sustainability transition. A feasible reality or an elusive goal?
5 *Journal of Environmental Management*, 321, p.115937. doi:10.1016/j.jenvman.2022.115937.
6
7

8
9 Conway E (2014) Assessing sustainability support to small and medium sized enterprises
10 (SMEs). *International Journal of Performance Engineering* 10(4): 377–386.
11
12

13
14 Cope, J. and Watts, G. (2000). Learning by doing – An exploration of experience, critical
15 incidents and reflection in entrepreneurial learning. *International Journal of Entrepreneurial*
16 *Behavior & Research*, 6(3), pp.104–124. doi:10.1108/13552550010346208.
17
18

19
20 Copper, D.L. (2020). Sustainability Transformations—From Theory to Practice. *Corporate*
21 *Sustainability in Practice*, pp.165–190. doi:10.1007/978-3-030-56344-8_10.
22
23

24
25 Cui, R. and Wang, J. (2022). Shaping sustainable development: External environmental
26 pressure, exploratory green learning, and radical green innovation. *Corporate Social*
27 *Responsibility and Environmental Management*, 29(3), pp.481-495.
28
29

30
31 Einiö, E. and Overman, H. (2020). The effects of supporting local business: Evidence from
32 the UK. *Regional Science and Urban Economics*, [online] 83, p.103500.
33 doi:10.1016/j.regsciurbeco.2019.103500.
34
35

36
37 Elkington, J. (1998). ACCOUNTING FOR THE TRIPLE BOTTOM LINE. *Measuring*
38 *Business Excellence*, [online] 2(3), pp.18–22. doi:10.1108/eb025539.
39
40

41
42 Erdelyi, P. (2010). The Matter of Entrepreneurial Learning: A Literature Review. In:
43 International Conference on Organizational Learning, Knowledge and Capabilities (OLKC)
44 2010, 3-6 June 2010, Northeastern University, Boston, MA, USA.
45
46

47
48 European Commission (EC). (2011). A renewed EU strategy 2011-14 for corporate social
49 responsibility (COM 2011/681) [http://eur-](http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=COM:2011:0681:FIN:en:PDF)
50 [lex.europa.eu/LexUriServ/LexUriServ.do?uri=COM:2011:0681:FIN:en:PDF](http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=COM:2011:0681:FIN:en:PDF) accessed
51 (accessed Nov 15 2022).
52
53

54
55 Fichter, K. and Tiemann, I. (2018). Factors influencing university support for sustainable
56 entrepreneurship: Insights from explorative case studies. *Journal of Cleaner Production*, 175,
57 pp.512–524. doi:10.1016/j.jclepro.2017.12.031.
58
59
60

1 Pro-environmental enterprise support

2
3 Fenna G and Marix-Evans L (2023) Powers In Place: The handbook of local authority net
4 zero powers. UK100.

5
6
7 Fineman, S. and Clarke, K. (1996). GREEN STAKEHOLDERS: INDUSTRY
8 INTERPRETATIONS AND RESPONSE. *Journal of Management Studies*, 33(6), pp.715–
9 730. doi:10.1111/j.1467-6486.1996.tb00169.x.

10
11
12
13
14 Fresner, J., (2010). Pre-SME-promoting Resource Efficiency in Small & Medium Sized
15 Enterprises: Industrial Training Handbook. United Nations Environment Programme.

16
17
18 Gouldson, A., Colenbrander, S., Sudmant, A., McAnulla, F., Kerr, N., Sakai, P., Hall, S.,
19 Papargyropoulou, E. and Kuylenstierna, J. (2015). Exploring the economic case for climate
20 action in cities. *Global Environmental Change*, 35, pp.93–105.
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46
47
48
49
50
51
52
53
54
55
56
57
58
59
60
doi:10.1016/j.gloenvcha.2015.07.009.

Hampton, S., Blundel, R., Fawcett, T. and Shaw, C. (2019). Growing Greener: Creating a
New Values-based Environmental Engagement Toolkit for SME Intermediaries. *IOP
Conference Series: Earth and Environmental Science*, 329, p.012056. doi:10.1088/1755-
1315/329/1/012056.

Halila, F. (2007). Networks as a means of supporting the adoption of organizational
innovations in SMEs: the case of Environmental Management Systems (EMSs) based on ISO
14001. *Corporate Social Responsibility and Environmental Management*, 14(3), pp.167–181.
doi:10.1002/csr.127.

Holt, D., Anthony, S. and Howard, V. (2000). Supporting Environmental Improvements in
Small and Medium-Sized Enterprises in the UK. *Greener Management International*,
2000(30), pp.29–49. doi:10.9774/gleaf.3062.2000.su.00005.

Hsu, C.-C. and Sandford, B.A. (2007), “The Delphi technique: making sense of consensus”,
Practical Assessment, Research & Evaluation, Vol. 12 No. 10, pp. 1-8.

International Trade Centre (2021), SME Competitiveness Outlook 2021: Empowering the
Green Recovery, International Trade Centre, Geneva. Available at
<https://www.intracen.org/publications/smeco2021/ITCSMECO2021> (Accessed on 1st
November 2022)

1 Pro-environmental enterprise support

2
3 Johansson, J., Thollander, P. (2014). Empirical investigation of barriers and drivers to the
4 adoption of energy conservation measures, energy management practices and energy services
5 in the Swedish iron and steel industry. In *Journal of Cleaner Production* (Vol. 84, pp. 509–
6 525). Elsevier BV. <https://doi.org/10.1016/j.jclepro.2014.04.078>
7
8

9
10
11 Kanda, W., Río, P., Hjelm, O. and Bienkowska, D., 2019. A technological innovation
12 systems approach to analyse the roles of intermediaries in eco-innovation. *Journal of Cleaner*
13 *Production*, 227, pp.1136-1148. <https://doi.org/10.1016/j.jclepro.2019.04.230>
14
15

16
17 Keeney, S., Hasson, F. and McKenna, H.P. (2001), “A critical review of the Delphi technique
18 as a research methodology for nursing”, *International Journal of Nursing* Vol. 38, pp. 195-
19 200.
20
21

22
23
24 Keijzers, G., 2002. The transition to the sustainable enterprise. *Journal of cleaner production*,
25 10(4), pp.349-359.
26

27
28 Kerr, I.R., 2006. Leadership strategies for sustainable SME operation. *Business Strategy and*
29 *the Environment*, 15(1), pp.30-39.
30
31

32
33 Klassen, R.D. and Whybark, D.C. (1999). THE IMPACT OF ENVIRONMENTAL
34 TECHNOLOGIES ON MANUFACTURING PERFORMANCE. *Academy of Management*
35 *Journal*, 42(6), pp.599–615. doi:10.2307/256982.
36
37

38
39 Klewitz, J., Zeyen, A. and Hansen, E.G. (2012). Intermediaries driving eco-innovation in
40 SMEs: a qualitative investigation. *European Journal of Innovation Management*, 15(4),
41 pp.442–467. doi:10.1108/14601061211272376.
42
43

44
45 Knight B and Paterson F (2018) Behavioural competencies of sustainability leaders: an
46 empirical investigation. *Journal of Organizational Change Management* 31(3): 557–580.
47 DOI: 10.1108/JOCM-02-2017-0035.
48
49

50
51 Koirala S (2018) Inclusive Solutions for the Green Economy - SMEs: Key Drivers of Green
52 and Inclusive Growth. In: *Green Growth and Sustainable Development Forum & Green*
53 *Growth Knowledge Platform 6th Annual Conference, Paris, 2018, Green Growth Knowledge*
54 *Platform*, p. 38. Available at: [https://www.oecd.org/greengrowth/GGSD_2018_SME_Issue](https://www.oecd.org/greengrowth/GGSD_2018_SME_Issue_Paper_WEB.pdf)
55 [Paper_ WEB.pdf](https://www.oecd.org/greengrowth/GGSD_2018_SME_Issue_Paper_WEB.pdf)
56
57
58
59
60

1 Pro-environmental enterprise support

2
3 Koirala, S. (2019), “SMEs: Key Drivers of Green and Inclusive Growth”, OECD Green
4 Growth Papers, 2019-03, OECD Publishing, Paris.

5
6
7 Lincoln, Y.S. and Guba, E.G. (1985), *Naturalistic Inquiry*, ISBN 0803924313, Vol. 75, Sage
8 Publications, Beverly Hills, CA

9
10
11 Linstone, H.A. and Turoff, M. (1975), *The Delphi Method: Techniques and Applications*,
12 Addison-Wesley, Reading, MA.

13
14
15
16 Marchi, V.D., Maria, E.D. and Micelli, S. (2012). Environmental Strategies, Upgrading and
17 Competitive Advantage in Global Value Chains. *Business Strategy and the Environment*,
18 22(1), pp.62–72. doi:10.1002/bse.1738.

19
20
21
22 Marra, M., Alfano, V. and Celentano, R.M. (2022). Assessing university-business
23 collaborations for moderate innovators: Implications for university-led innovation policy
24 evaluation. *Evaluation and Program Planning*, 95, p.102170.
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46
47
48
49
50
51
52
53
54
55
56
57
58
59
60
doi:10.1016/j.evalprogplan.2022.102170.

31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46
47
48
49
50
51
52
53
54
55
56
57
58
59
60
Matschoss, K, Heiskanen, E. (2017). Making it experimental in several ways: the work of
intermediaries in raising the ambition level in local climate initiatives *Exp. Clim. Change
Solut.*, 169, pp. 85-93 <https://doi.org/10.1016/j.jclepro.2017.03.037>

37
38
39
40
41
42
43
44
45
46
47
48
49
50
51
52
53
54
55
56
57
58
59
60
Mazumdar, S., Thakker, D., Hayes, J., Matos, N. and Bate, P. (2023). Towards Achieving
Net Zero by 2050 in the UK—Stakeholder Perspectives in Integrated Urban Planning. *Futures*,
p.103197.

43
44
45
46
47
48
49
50
51
52
53
54
55
56
57
58
59
60
Mitchell, Sinéad & O'Dowd, Paul & Dimache, Aurora & Roche, T.. (2011). THE ISSUE OF
WASTE IN EUROPEAN MANUFACTURING SMES. 10.13140/RG.2.2.35560.08964.

47
48
49
50
51
52
53
54
55
56
57
58
59
60
Nejati, M., Amran, A. and Hazlina Ahmad, N. (2014). Examining stakeholders' influence on
environmental responsibility of micro, small and medium-sized enterprises and its outcomes.
Management Decision, 52(10), pp.2021–2043. doi:10.1108/md-02-2014-0109.

54
55
56
57
58
59
60
Nylund, P.A., Brem, A. and Agarwal, N., (2021). Innovation ecosystems for meeting
sustainable development goals: The evolving roles of multinational enterprises. *Journal of
Cleaner Production*, 281, p.125329.

1 Pro-environmental enterprise support

2
3 OECD (2017), Enhancing the contributions of SMEs in a global and digitalised economy,
4 <https://www.oecd.org/mcm/documents/C-MIN-2017-8-EN.pdf> (accessed on 26 October
5 2022).
6
7

8
9 OECD (2018), Environmental Policy Toolkit for SME Greening in EU Eastern Partnership
10 Countries, OECD Green Growth Studies, OECD Publishing, Paris,
11 <https://doi.org/10.1787/9789264293199-en>.
12
13

14
15 Oyewole, O. J., Al-Faryan, M. A. S., Adekoya, O. B., & Oliyide, J. A. (2024). Energy
16 efficiency, financial inclusion, and socio-economic outcomes: Evidence across advanced,
17 emerging, and developing countries. In *Energy* (Vol. 289, p. 130062). Elsevier BV.
18
19 <https://doi.org/10.1016/j.energy.2023.130062>
20
21

22
23 Patala, S., Jalkala, A., Keränen, J., Väisänen, S., Tuominen, V. and Soukka, R. (2016).
24 Sustainable value propositions: Framework and implications for technology suppliers.
25 *Industrial Marketing Management*, 59, pp.144–156. doi:10.1016/j.indmarman.2016.03.001.
26
27

28
29 Paterson, F., Baranova, P. and Gallotta, B. (2022). Towards a conceptual framework of
30 enterprise support for pro-environmental small and medium-sized enterprises: A
31 contextualised review of diverse knowledge domains. *Local Economy: The Journal of the*
32 *Local Economy Policy Unit*, p.026909422210973. doi:10.1177/02690942221097373.
33
34

35
36 Patton, M. Q. (2002), *Qualitative Research and Evaluation Methods*, Sage Publications, Thousand
37 Oaks, CA.
38
39

40
41 Piwowar-Sulej, K. and Iqbal, Q. (2022). Leadership styles and sustainable performance: A
42 systematic literature review. *Journal of Cleaner Production*, p.134600.
43
44 [doi:10.1016/j.jclepro.2022.134600](https://doi.org/10.1016/j.jclepro.2022.134600).
45
46

47
48 Powell, C. (2003), “The Delphi technique: myths and realities”, *Journal of Advanced*
49 *Nursing*, Vol. 41 No. 4, pp. 376-382.
50
51

52
53 Prochorskaite, A. (2014). University-led business support: a case study of a regional
54 programme. *Industrial and Commercial Training*, 46(5), pp.257–264. doi:10.1108/ict-11-
55 2013-0079.
56
57
58
59
60

1 Pro-environmental enterprise support

2
3 Rae, D. (2005). Entrepreneurial learning: a narrative-based conceptual model. *Journal of*
4 *Small Business and Enterprise Development*, 12(3), pp.323–335.

5
6 doi:10.1108/14626000510612259.

7
8
9 Rae, D. (2017). Entrepreneurial learning: peripherality and connectedness. *International*
10 *Journal of Entrepreneurial Behavior & Research*, 23(3), pp.486–503. doi:10.1108/ijebr-05-
11 2016-0132.

12
13
14
15
16 Ridha, A., Matondang, N. and Haikal Sitepu, M. (2020). Pro-environmental behavior for
17 small medium enterprise: a review. IOP Conference Series: Materials Science and
18 Engineering. doi: 10.1088/1757-899X/801/1/012069

19
20
21
22 Romero, D. and Molina, A. (2011). Collaborative networked organisations and customer
23 communities: value co-creation and co-innovation in the networking era. *Production*
24 *Planning & Control*, 22(5-6), pp.447–472. doi:10.1080/09537287.2010.536619.

25
26
27
28 Rotar, L.J., Pamić, R.K. and Bojnec, Š. (2019). Contributions of small and medium
29 enterprises to employment in the European Union countries. *Economic Research-Ekonomska*
30 *Istraživanja*, 32(1), pp.3302–3314. doi:10.1080/1331677x.2019.1658532.

31
32
33
34 Rugman, A.M. and Verbeke, A. (2008). A regional solution to the strategy and structure of
35 multinationals. *European Management Journal*, 26(5), pp.305–313.

36
37 doi:10.1016/j.emj.2008.04.004.

38
39
40 Segovia, V.M. (2010). Transforming Mindsets Through Education for Sustainable
41 Development. *International Encyclopedia of Education*, pp.746–752. doi:10.1016/b978-0-08-
42 044894-7.00224-4.

43
44
45
46 Selsky, J. W., & Parker, B. (2005): “Cross-sector partnerships to address social issues:
47 Challenges to theory and practice.” *Journal of Management*, 31(6), 849-873.

48
49
50
51 Sharma, S. and Henriques, I. (2004). Stakeholder influences on sustainability practices in the
52 Canadian forest products industry. *Strategic Management Journal*, 26(2), pp.159–180.

53
54 doi:10.1002/smj.439.

55
56
57
58
59
60 Sharma, S. and Vredenburg, H. (1998) Proactive Corporate Environmental Strategy and the
Development of Competitively Valuable Organizational Capabilities. *Strategic Management*
Journal, 19, 729-753.4

1 Pro-environmental enterprise support

2
3 Srivastava, S.K. (2007). Green supply-chain management: A state-of-the-art literature review.
4 *International Journal of Management Reviews*, 9(1), pp.53–80. doi:10.1111/j.1468-
5 2370.2007.00202.x.
6
7

8
9 Szczepańska-Woszczyna, K., Dacko-Pikiewicz, Z. and Lis, M. (2015). Responsible
10 Leadership: A Real Need or Transient Curiosity. *Procedia - Social and Behavioral Sciences*,
11 213, pp.546–551. doi:10.1016/j.sbspro.2015.11.448.
12
13

14
15 Tan, Y.X. (2023). Insights/Opinion–Sustainable Cities: The Role of Governance for Greater
16 Innovations. *International Journal on Smart and Sustainable Cities*, p.2371001.
17
18

19
20 Tengö, M., Hill, R., Malmer, P., Raymond, C.M., Spierenburg, M., Daniesen, F., Elmqvist,
21 T., & Folke, C. (2017): “Weaving knowledge systems in IPBES, CBD and beyond - lessons
22 learned for sustainability.” *Current Opinion in Environmental Sustainability*, 26, 17
23
24

25
26 Tumpa, T.J., Ali, S.M., Rahman, Md.H., Paul, S.K., Chowdhury, P. and Rehman Khan, S.A.
27 (2019). Barriers to green supply chain management: An emerging economy context. *Journal*
28 *of Cleaner Production*, 236, p.117617. doi:10.1016/j.jclepro.2019.117617.
29
30

31
32 Turoff, M.(1970),“The design of a policy Delphi”, *Technical Forecasting and Social*
33 *Change*, Vol.2 No.2, pp. 149-171.
34
35

36
37 Turoff, M. (2002) The Policy Delphi, in H. Linstone & M. Turoff (Eds) *The Delphi Method:*
38 *techniques and applications*, pp. 80-96. <http://www.is.njit.edu/pubs/delphibook/index.html>
39 (accessed 15 September 2022).
40
41

42
43 United Nations (2008) *The United Nations Global Compact and European Foundation for*
44 *Management Development*, 2008.
45
46

47
48 United Nations. (2011). *Human Development Report 2011*. [online] hdr.undp.org. Available
49 at: <https://hdr.undp.org/content/human-development-report-2011>. (Accessed on the 15th
50 November 2022).
51
52

53
54 United Nations (2015), *Partnership for Sustainable Development Goals: A Legacy Review*
55 *towards Realizing the 2030 Agenda*, available at:
56 <https://sustainabledevelopment.un.org/sdinaction/publication/partnerships-a-legacy-review>
57 (accessed 6 November 2022).
58
59
60

1 Pro-environmental enterprise support

2
3 Utting, P., & Zammit, A. (2009): "United Nations - business partnerships: Good intentions
4 and contradictory agendas." *Journal of Business Ethics*, 90(1), 39-56.

5
6
7 Walls, J.L., Phan, P.H. and Berrone, P. (2011). Measuring Environmental Strategy: Construct
8 Development, Reliability, and Validity. *Business & Society*, 50(1), pp.71–115.
9
10
11 doi:10.1177/0007650310394427.

12
13
14 Zhou, F., Zhang, N. and Mou, J. (2022). Universities as incubators of innovation: The role of
15 a university playfulness climate in teachers' sustainable teaching innovation. *The*
16 *International Journal of Management Education*, 20(3), p.100693.
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
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41
42
43
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45
46
47
48
49
50
51
52
53
54
55
56
57
58
59
60
doi:10.1016/j.ijme.2022.100693.

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