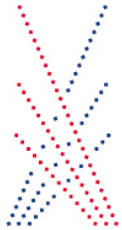

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Developing Entrepreneurship Capabilities for Eco-innovation in SMEs

SMEs have a critical role to play in eco-innovation. Historically SMEs have been disproportionately responsible for new market developments and initial diffusion oaf innovation. SMEs account for the largest proportion of enterprises and of greenhouse gas emissions in Europe - sustaining the competitiveness of these firms is vitally important for both national and global economies. Pursuing an eco-innovation strategy requires SMEs to have dynamic capabilities to adapt continually as eco-innovations become increasingly better creating to dynamic conditions. SMEs often lack the financial, managerial, knowledge, or human resources necessary for eco-innovation development. We report on a project to support ten entrepreneurial SMEs to enter new environmental markets. We find that participation led to the increased participation of SMEs in international eco-innovation markets and the nascent emergence of capability. We argue that internationalization and collaboration capabilities present an opportunity for SMEs to address the issue of scarce resources.

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Introduction

Environmental issues and the need for protection of the environment has become an area of increasing concern over the past two decades in particular. Many governments and businesses, as well as society are demanding an effective response to the problems that unsustainable development is creating. Many organizations have responded positively to the challenge to contribute to economic development and prosperity in a way that respects the environment, however this is still an area that needs significant resources and consideration with much more needing to be done. It has recently been proposed that firms should recognise the natural environment not in the traditional sense as a threat but rather as an opportunity that can lead to economic as well as environmental benefits (Porter and van der Linde 1995b, Hilliard, 2004; Andersen, 2008).

Innovation is widely seen as being central to the success of societal responses to environmental challenges (OECD 2010). Many efforts have focused on how best to stimulate innovation towards more environmentally sustainable solutions and promote eco-innovation. The scale of both environmental and economic challenges in the global economy highlight the need for technological and behavioural change and renewal on an unprecedented level. Eco-innovation represents a discontinuous change, which is comparable only to the industrial revolution (Carrillo-Hermosilla et al, 2009). Innovation is also "an essential condition of economic progress and a critical element in the competitive struggle of enterprises and of nation states" (Freeman and Soete 2000). While eco-innovation has been recognised as "an economic driver, enhancing competitiveness and a key factor in achieving sustainable development in Europe" (Beltran 2008 p. xii), it is only recently that studies focusing on the business case for eco-innovation have gained attention in academic terms (Carrillo-Hermosilla et al., 2009, Kemp and Oltra, 2011, Andersen, 2012, Bocken et al., 2014). These scholars outline the changing view of eco-innovation as a business opportunity and driver of both economic and environment sustainability rather than a burden to be addressed by firms. Eco-innovation is now part of the sustainable development strategy and the economic growth strategy of the European Commission due to the policy assumption of offering a "double win" (Kemp and Oltra, 2011).

SMEs have a considerable contribution to make to the process of innovation generally and eco-innovation specifically. SMEs represent a vital component of most economies across the EU28, employing nearly 90 million people, and generating more than EUR 3.7 trillion of value added (Muller et al., 2015). Unsurprisingly, sustaining the competitiveness of SMEs is vitally important for both national and global economies (Garengo et al., 2005; Lubatkin et al., 2006; Mikhailitchenko and Lundstrom 2006).

Coupled with this, SMEs also account for the largest proportion of greenhouse gas emissions in Europe. SMEs have a distinct and critical role to play in eco-innovation and have historically been disproportionately responsible for new market developments and initial diffusion of innovation generally (Freel, 2000). However pursuing an eco-innovation strategy requires SMEs to have the ability to change and adapt on a continuous basis as eco-innovations become increasingly better, and the market becomes more knowledgeable and regulation increases, thus contributing to dynamic conditions. Similar to larger firms, SMEs generally face the same kind of

competitive pressures. However, SMEs differ from large firms in that they often lack the financial, managerial, knowledge, or human resources necessary for eco-innovation development. Lack of resources is considered one of the main problems and a typical characteristic of SMEs (Lubatkin et al., 2006; Jansen et al., 2012; Ates et al., 2013). Added to this, SMEs who operate in highly competitive and turbulent markets rarely have any control or influence over the market and thus they need to be capable of adapting to both policy and market changes quickly (Hudson, 2001; Garengo et al., 2005; Safarzyńska, and van den Bergh, 2012; Martin et al., 2015). While size represents a weakness, in terms of available resources and long-term planning, on the other hand it favors a flat organizational structure with a lack of bureaucracy, which results in flexibility, adaptability, and rapidity in response to a changing environment (Freel, 2000). For this reason, despite their liability of smallness, SMEs may have a high potential for innovation and the ability to keep pace with evolving requirements.

While the regulatory drivers of eco-innovation have received considerable attention (Diaz-Garcia et al., 2015), much less is known about the development and deployment of specific capabilities that allow SMEs to pursue an eco-innovation. The particular demands of eco-innovation require extensive and distributed knowledge and resources and large potential markets that are only likely to be available in the wider business environment. Developing eco-innovation products and services can be a complex task that often requires information and skills distant from the traditional knowledge base of the industry (Aragon-Correa and Sharma, 2003; De Marchi 2012; Ketata et al., 2014) thus highlighting the need for internationalization and collaboration. In this paper we hypothesize that through a range of interventions the intentional development of internationalization and collaboration can address the issue of scarce resources and present opportunities for SMEs to pursue an eco-innovation orientation.

Theoretical Framework

Eco-innovation differs from standard innovation in that it also requires additional and broader knowledge, which does not belong to the core competences of firms or to the traditional industrial knowledge base (Andersen, 2012; De Marchi, 2012; Ketata et al., 2014; Martin et al., 2015). Developing cooperation agreements (Cainelli et al. 2012; De Marchi 2012) and external knowledge sourcing (Ketata et al., 2014; Ghisetti et al., 2015) are particularly important for eco-innovation and complement investments made in organizational capabilities (Martin et al., 2015).

It has recently been recognised that the specific knowledge required for eco-innovation entails additional layers of complexity and uncertainty (Andersen, 2012; De Marchi, 2012; Ketata et al., 2014). Unique knowledge can be considered a valuable asset and a source of competitive advantage as it provides firms with the necessary information to decide which resources or capabilities to, develop, deploy or discard as their environment changes (Zollo and Winter, 2002; Ketata et al., 2014). Management expertise is of particular importance for eco-innovation, as the additional factual information and understanding required extends beyond conventional innovation management strategies (Ketata et al., 2014). Dealing with complex knowledge and eco-innovation activities risks commitment to irrevocable

investments that do not gain widespread adoption. Eco-innovation is also likely to be more expensive and than traditional innovation since it may involve the whole organization, and may require investments in an entire set of different technologies (Ketata et al., 2014). Moreover, the pay-offs from eco-innovation may not translate quickly into profits but result in intangible and long-term objectives. In contrast, the pressures to make the eco-innovations profitable may be very immediate (Ketata et al., 2014).

Dealing with a range of different environmental situations and regulations in international markets has the potential to generate more complex knowledge-based resources and develop better eco-innovations with the potential to ease entry to markets with more stringent regulations. Internationalization and collaboration have been observed to have a positive impact on firms' environmental performance and eco-innovation (Aguilera-Caracuel et al., 2012; Di Marchi, 2012).

Internationalization Capabilities: Traditionally, SMEs confined their activities to their local region or stayed within their national boundaries however for SMEs operating in eco-innovation sectors, it is not possible to participate in the market without taking into account the risks and opportunities presented by internationalization. Internationalization is defined in this study as "the process of mobilizing, accumulating, and developing resource stocks for international activities" (Ahokangas, 1998). Internationalization can therefore be viewed as a dynamic capability that enables firms to acquire and use unique and interdependent resources that facilitate and contribute to internationalization activities (Zahra and George, 2002; Nummela, 2004; Ruzzier et al., 2006).

A company's involvement in international business might arise when they engage in technology transfer or buy products from abroad (inward internationalization), sell products to foreign markets (outward internationalization) or cooperate in some other way with a foreign firm (cooperative internationalization). This highlights the sometimes overlooked holistic nature of internationalization (Korhonen, 1999). Inward activities may contribute to outward involvement especially in the early stages of internationalization (Welch and Luostarinen, 1993) and in smaller firms (Korhonen, Luostarinen and Welch, 1996). Through cooperative internationalization, investment in complements and other infrastructure needed for R & D or launching new products can be facilitated (Teece, 2014).

Making connections between inward, outward and cooperative internationalization is more likely in SMEs, as it is often the manager or entrepreneur who is responsible for all three activities thus permitting cross-learning process to occur (Welch and Luostarinen 1993). Internationalization in all three forms can facilitate the accumulation of strategically relevant knowledge that could lead to improved supply chain, diversification or even the ability to build entirely new ecosystems within which international firms can operate (Boter and Holmquivist, 2003; Teece, 2014).

However, similar to eco-innovation resources, SMEs may not have the internal resources available for internationalization. Therefore the internationalization of SMEs may need to take place through the use of external resources. In practice the externally available resources can be reached through cooperation with other firms or organizations that sell or otherwise provide valuable information for small firms

(Ahokangas, 2003). The fundamental question then for SMEs is not whether to internationalize but whether to internationalize alone or in cooperation with other firms or organizations.

Collaboration Capabilities: Collaboration capability can be defined as 'the actor's capability to build and manage network relationships based on mutual trust, communication and commitment' (Blomqvist and Levy 2006). For SMEs in particular collaboration is critical for knowledge creation, innovation and growth (Miles et al., 2000; Blomqvist and Levy, 2006). Knowledge creation is social in nature, and social relationships that facilitate exchange of knowledge are an essential element of collaboration. The role of collaboration capability is heightened under conditions of high uncertainty (Tyler, 2001; De Marchi, 2012) and the ability to collaborate helps firms to create and transfer knowledge in pursuit of innovation and better performance.

In order to stay competitive, even the most capable knowledge-intensive companies have to identify and leverage knowledge produced beyond the borders of their own organizations as part of the innovation process (Knudsen and Nielsen 2010). However in the case of eco-innovation the need for collaboration is accentuated. Crossing organizational boundaries in search of new knowledge is a prerequisite for eco-innovation oriented SMEs who have to cope with uncertainty, dispersed knowledge and complexity in the innovation process (Ahuja, 2000b; Chesbrough, 2006; Knudsen and Nielsen 2010; De Marchi, 2012; Ketata et al., 2014; Teece, 2014). Some have argued that inter-organizational learning is critical to competitive success and capability development, noting that organizations frequently learn through collaboration with other organizations (De Marchi, 2012: McGrath and O'Toole, 2016). In the case of eco-innovation collaboration capability can be viewed as a generic meta-capability enabling leverage of both internal and external knowledge resource bases in uncertain and complex environments (Miles et al., 2000; Blomqvist and Levy, 2006).

The importance of knowledge-based resources in achieving competitive advantage is recognised both in the dynamic capabilities literature (Teece et al., 1997; Zollo and Winter, 2002; Helfat et al., 2007) and in the eco-innovation literature (Andersen, 2012; De Marchi, 2012; Ketata et al., 2014). Internalization and collaboration can thus be viewed as opportunities for SMEs to diversify through increasing their knowledge-based resources or as a startup strategy for new ventures.

Context and Research Design

The study focused on ten eco-innovation oriented SMEs who engaged with the EU project. The first author was employed as a development officer in an EU funded project designed to to accelerate the deployment of renewable energy, smart grid and distributed energy across North West Europe. While this emerging market presents many opportunities for SMEs to engage in, the project recognised that barriers exist particularly for SMEs with limited resources.

Investigating the development of capabilities is dependent on "looking in the right places" (Di Stefano et al., 2010: 1200). The approach in this study is that a project

focused specifically on eco-innovation offers such a place. The sampling process relied on the logic that purposeful sampling is necessary to answer the research question. One of the main aims in the selection process was to find information-rich cases capable of answering the research question. In the context of this study this means SMEs need to be starting out or engaged in eco-innovation activities and show a willingness to engage in exploration activities. SMEs can be new companies or established but must have a strategic intention to grow.

As part of the project three types of interventions were implemented, these were an incentive scheme, SME workshops and a matchmaking visit to the Netherlands. The interventions were advertised and SMEs were invited to engage with the project and apply for the interventions. This sample of ten SMEs represents companies who engaged the most with the project and include a variety of SMEs engaged in both incremental and radical eco-innovations and ranging in age from 2 years to almost 40 years old (table 1).

Both primary and secondary data was collected through several sources including: interviews, meetings, workshops, telephone conversations, emails, presentations, conferences, seminars, reports, and observations. This wide range of data collection facilitated triangulation (Yin, 2014) of the emerging process and enriched the contextual understanding of the study. The analysis of findings was carried out on an ongoing basis allowing for the refining of data collection as the research progressed (Coghlan & Brannick 2014).

Interviews normally took place in a private meeting room, unless a participant chose to be interviewed in another setting. Data recordings and the researchers journal were kept in a secure location that was accessible only to the researcher, and all information supplied by participants was treated with the utmost discretion. All names and identifying details were removed at the time of data analysis and organisation names were substituted with pseudonyms to protect the privacy and confidentiality of those involved in the research.

The project consisted of a series of interventions and financial incentives offered to SMEs to facilitate, stimulate and develop their capability to enter international markets with new eco-innovations. Incentives were offered to fund the costs of: (i) initial efforts to enter first time markets, through attending trade fairs or obtaining expert services; (ii) exploring opportunities to find international partners with a view to developing joint bids; (iii) preparing high quality bids. The project also supported SMEs in their first steps into international markets by creating (iv) workshops to provide knowledge on aspects of international collaboration; (v) opportunities to meet potential academic research partners; (vi) international visits for the SMEs to meet potential business partners.

During this research study, the entrepreneurs solved problems, addressed issues and received support to improve performance in pursuing eco-innovation. Data on participating firms development, outcomes and learning were analysed to understand the stimulation and development of internationalisation and collaboration capability.

Results

From the analysis of the findings two distinct groups of SMEs emerged based on company age these are classified as established SMEs and new ventures as outlined in table 1. These groups of SMEs displayed significant differences in their capability development.

Internationalisation: Eco-innovation is an emerging market and a trans boundary issue that by its nature requires firms to internationalize particularly in relation to research and development and importing raw materials from established markets in more progressive countries. Internationalization capabilities in this study reflect the managerial capability of supporting the SME to look to international markets to acquire knowledge, skills and resources to achieve eco-innovation. Internationalization can be in the form of inward internationalization, outward internationalization or cooperative internationalization (Welch and Luostarinen, 1993).

Through the process of cooperative internationalization in its various forms, such as agreeing distribution arrangements, cooperation on purchasing, cooperation on R&D, collaborating with companies and universities in other countries, SMEs pursued knowledge acquisition and R&D activities. All of these activities had positive results with many resulting in joint service offerings, partnership agreements and memorandum of understanding (MOU). Pursuing these activities allowed SMEs to gain additional resources, for example in the case of the consortium formed by Company 1 and Company 6 with a large multinational company. This consortium also secured financial resources for new product development. Company 2 found new partners and formed joint partnerships to deliver services to the UK. All of the SMEs gained additional resources, in terms of knowledge, finance, partnerships and distributors through internationalization.

Collaboration: The importance of being able to identify and leverage knowledge from outside the organization is an essential part of the innovation process (Knudsen & Nielsen 2010). For SMEs in particular collaboration is critical for knowledge creation, innovation and growth (Miles et al., 2000; Blomqvist & Levy, 2006). Knowledge creation is social in nature, and social relationships that facilitate exchange of knowledge are an essential element of collaboration.

Many of the SMEs negotiated formal agreements to help establish trust, communication and commitment. Company 6 for example negotiated a memorandum of understanding with their collaboration company in order to establish: working relationships, initiate a feasibility study, establish plans for research and development, and the conduct of talks with key external stakeholders such as government agencies.

All of the SMEs displayed an ability to communicate at an international level and many placed significant importance on the value of meeting potential collaborators to establish initial trust. For example:

> *"I consider work via word-of-mouth to be just as important in London as it is in the West of Ireland, so my time meeting clients face-to-face is vital to setting the development of the company on the right track".*
> *(Company 2 MD)*

It was clear that SMEs were capable of developing and using collaboration capabilities. This had a number of advantages for the firms involved including the ability to draw on new resources and skills as evidenced by:

> *"Some additional benefits of tendering and advertising collectively are the fact that we can pool our resources and in particular we can all benefit from the qualifications, quality assurance and professional memberships we have between us". (Company 2, MD)*

Collaboration provided SMEs with valuable and inimitable resources and capabilities not otherwise available to them (Teece et al., 1997; Eisenhardt and Martin, 2000; Helfat et al., 2007). Collaboration capability is an integrating concept enabling knowledge creation and collaborative innovation (Blomqvist & Levy, 2006). Collaborative arrangements can provide opportunities for firms to assimilate information, internalize skills, and develop new capabilities (Knudsen & Neilsen, 2010).

Discussion

The successful pursuit of eco-innovation for SMEs depends to a large extent on the ability of the SMEs to acquire sufficient resources. Resources play an important role in providing support to drive a firm's eco-innovation activities, (Aragon-Correa and Sharma, 2003; De Marchi, 2012; Ketata et al., 2014).

Drawing on the analysis of the two groups of SMEs in table 4 it is apparent that the new ventures developed higher levels of internationalization and collaboration capabilities during the course of the project. These capabilities allowed them to address the issue of scarce resources, both in terms of knowledge and finance.

Internationalization
Internationalization has a multidimensional aspect (Welch and Luostarinen, 1993, Ruzzier et al., 2006). Inward activities such as purchase of raw materials and equipment or cooperative activities can also provide many opportunities for learning about international business and for building relationships and capabilities with foreign actors (Welch and Luostarinen,1993). Established SMEs engaged mainly in inward internationalization, with SMEs buying eco-innovation technologies internationally and distributing them or incorporating them into their service delivery offering in their home market.

All three types of internationalization are relevant to eco-innovation in SMEs. Importing activities ranged from simply importing raw materials, technology transfer, components, machinery or services to securing sole distribution agreements for the manufacturer's products. The new ventures tended to engage more in outward internationalization, four of the SMEs focused on making the export market their main market and source of income for the near future. Regarding cooperative internationalization, while all of the SMEs engaged in cooperative internationalization it is notable that the established SMEs tended to collaborate within their supply chain, mainly with international suppliers of eco-innovation technology, while the new ventures collaborated much more broadly with other companies, new ventures, and

universities in other countries in the pursuit of knowledge acquisition and to support R&D activities.

Internationalization should therefore consider all three types of internationalization, inward, outward and cooperative. This is especially relevant given that many SMEs start their international operations through inward activities. This is evident in the case of Company 3 and Company 4, both of whom set out to import raw materials to reduce their cost base. In the case of Company 3, this allowed them to expand their sales into the UK market and Company 4 were able to establish collaborations to develop their new product and facilitate export sales. All three types of internationalization are connected and have the potential to influence each other in a variety of ways throughout the process of internationalization (Welch and Luostarinen, 1993).

Collaboration

The importance of being able to identify and leverage knowledge from outside the SME is an essential part of the eco-innovation process (Knudsen and Nielsen, 2010; De Marchi, 2012; Ketata et al., 2014). The literature suggests that firms cooperate on eco-innovative activities both to reduce costs, share risks and to complement their internal resources and capabilities. Cooperation with external partners proved to be valuable especially in the case of R&D SMEs and for eco-innovations that are radical or require knowledge and capabilities that fall outside the firms' usual domain (De Marchi, 2012), which is often the case for eco-innovations. The interdependences arising because of the systemic and complex nature and the uncertainties linked with the development of eco-innovation motivate SMEs to leverage the competences of external partners to a higher extent than for other innovations. The need to verify the environmental features of components used encourages firms to interact to a higher degree with partners in their supply chain, both to co-develop eco-innovations and to verify their compliance (De Marchi, 2012).

Collaboration capabilities in the context of this study reflects the entrepreneurial ability to build relationships with external actors to acquire resources to achieve eco-innovation. Similar to internationalization, collaborating and forming partnerships with external partners to deliver products or services that can not be delivered by the SME on their own, represents both a changed resource base and a means of acquiring new resources (Knusden and Nielsen, 2010). Collaboration in the context of eco-innovation is also future orientated, thus enabling adaptation for the SMEs involved. Collaboration enables knowledge creation and collaborative innovation. The findings of the study support the view of collaboration as a generic meta-capability enabling leveraging of both internal and external knowledge resources in an uncertain and complex eco-innovation environment (Miles et al., 2000, Blomqvist and Levy, 2006).

Because of their lack of resources SMEs are more likely to seek out external collaborations to address the high uncertainty and significant technological and materials changes required for eco-innovation (De Marchi, 2012). Collaboration provides the SMEs with opportunities to attract external partners who have common environmental goals and offer complementary knowledge, resources and skills (Zhang and Walton, 2016). The importance of being able to identify and leverage knowledge from outside the SME is an essential part of the eco-innovation process (Knudsen and Nielsen, 2010). Collaboration is critical for knowledge creation,

innovation and growth (Miles et al., 2000, Blomqvist and Levy, 2006). Through collaborating SMEs created a number of advantages, including the ability to draw on new resources and skills.

While the project did not explicitly attempt to develop a network of the SMEs, they spontaneously formed loose networks of their own. After the project formally ended many of the SMEs continued to collaborate with each other and some SMEs actively sought out other EU projects to engage with, suggestive of the continuing development of collaboration capabilities.

Scarce Resources

The internationalization and collaboration discussed above were instrumental in achieving eco-innovation outcomes in the SMEs. Through the interventions, the entrepreneurs began to realise that collaboration and internationalization were means by which they could address the issue of scarce resources as suggested in the comment:

> *While my skills were well received, my size and limited resources hinder my prospects and sometimes the procurement rules prevented me from obtaining high value work. Collaboration is the key to my company gaining these opportunities and I expect follow up meetings and further collaboration in due course. Presenting at this event has allowed me to raise my profile and credibility within this niche market and has resulted in a successful joint bid for work on an energy retrofit of buildings in the UK.*
> *(Managing Director, Company 2)*

Actively collaborating with external actors, searching for joint projects and building good personal relationships with key actors help to overcome the liability of smallness, particularly when forming relationships and alliances with larger partners.

Our results also suggest that entrepreneurs play a significant role in bringing the SME into contact with tacit and complex knowledge and in using it to generate eco-innovation outcomes. Hence, the entrepreneurs' capacity to learn by actively seeking knowledge through internationalization and collaboration in markets with different environmental profiles generated rewarding knowledge.

Conclusions

Eco-innovation is a highly turbulent market over which SMEs have very little control or influence and thus, they need to be capable of adapting to market changes quickly (Garengo et al., 2005; Hudson, 2001). While size represents a weakness, in terms of available resources and long-term planning, on the other hand a flat organizational structure with a lack of bureaucracy, results in flexibility, adaptability, and rapidity in responding to the changing environment (Freel 2000). This research provided a unique opportunity to observe entrepreneurs engaging in the practices and processes of capability development in pursuit of eco-innovation. These SMEs have displayed a high potential for eco-innovation and the ability to satisfy evolving requirements.

From a policy perspective the findings imply that policy makers should design incentives that encourage learning from and for the internationalization process (Aguilera-Caracuel et al., 2012). Well-designed policies, action and awareness programmes can work in conjunction with markets to stimulate improved eco-innovation. Through utilising these incentives, SMEs will be able to develop dynamic capabilities that enhance their competitive advantage while also protecting the natural environment. Policy interventions such as the ones in this project, implemented through action research can be used to successfully develop the dynamic capabilities of internationalization and collaboration, both essential capabilities for eco-innovation in SMEs (De Marchi, 2012).

Raising the attention of policy makers and consumers toward eco-innovation industries makes it increasingly important to understand the peculiarities of environmental innovations in order to target appropriate policies (De Marchi, 2012). Our findings suggest, that long established SMEs who have innovated to deal with increased regulation tend to eco-innovate in an incremental/exploitation manner whereas the new ventures tend to respond to incentives and develop more radical/explorative eco-innovations, suggesting the need to consider a dynamic policy framework.

Our findings also have implication for management on how to strengthen or develop eco-innovation capabilities. First, we find strong benefits in investing in the development of internationalization and collaboration capabilities to take advantage of opportunities in the environment. Second, it is recommended for SMEs to follow a culture of open eco-innovation that allows exposure to a diverse range of external knowledge sources (Ketata et al., 2014). Knowledge and resources may be accessed through a variety of stakeholders such as customers, suppliers, research institutions, government agencies, policy makers, and advocacy groups, all of whom may be a source of ideas and knowledge.

This study attempted to facilitate the intentional development of capabilities for eco-innovation in SMEs and in doing so makes a number of important contributions. We identify the importance of internationalization and collaboration for SMEs in addressing both the issue of scarce resources and enabling eco-innovation. We argue for the need for a systemic view of eco-innovation and a more holistic view of internationalization and collaboration.

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Table 1 Summary of project participants, activities and outcomes

Company No.	Company Sector	Established	Key informants	Intervention	Development/Outcome
			Established SMEs		
8	Mechanical and Electrical Contractor.	1976	Directors	Matchmaking trip	Adoption of new technology
7	Electronic controls	1990	Managing Director	SME Workshop & Matchmaking trip	Adoption of new technology & new markett development
3	Heat Pumps and Solar PV	2002	Director	Internationalisation & Matchmaking incentives & SME Matchmaking trip	New market
4	Heat Pumps	2002	Managing Director	Internationalisation incentive & SME Workshop	New product and new market
			New Ventures		
10	Heating and Electricity Generation Systems	2006	Managing Director	SME Workshop & Bidding Consortia incentive	Adoption of new technology
6	Wave Energy	2007	Managing Director	Internationalisation incentive	New product
2	Energy Planning and Analysis	2008	Managing Director	Internationalisation & Matchmaking incentives & SME workshop	New service and new market
1	Wave Energy	2010	Managing Director	Internationalisation & Matchmaking incentives & SME workshop	New product & new market
9	Photo Voltaics	2010	Managing Director	SME Workshop & Matchmaking trip	Adoption of new technology
5	Off-shore Wind	2012	Director	Internationalisation & Matchmaking incentives	New product