

Declaration

I declare that the work undertaken for this BA Dissertation has been undertaken by myself and the final Dissertation produced by me. The work has not been submitted in part or in whole in regard to any other academic qualification.

Title of Dissertation:

Can Scotland provide better support to environmental Start-ups?

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Abstract

To create an environmental business start-up implies coping with apparently conflicting goals: economic viability, environmental preservation and often social equity. For the so-called “ecopreneur” it raises challenges and specificities unknown to the conventional ecopreneur. This paper analyses these peculiarities and compares them to the support systems available to entrepreneurs nowadays. It aims to examine whether the assistance offered to environmental business start-ups in Scotland should be improved. To do so, the case of environmental start-up has been scrutinised through academic and professional literature and discussed with professional advisers.

It has been found that differences exist between environmental entrepreneurship and its conventional cousin. These differences would require supplementary attention and a special approach in the environmental start-up process. Depending on their nature, all these needs could find appropriate assistance located in a range of organisations. These organisations have been classified as follows: business development services, networking services, resource efficiency services, community development services and innovation development services.

The main problem with this configuration lies not on the “pick and mix” approach that environmental entrepreneurs need to adopt but in the lack of common identity they suffer. Three options would summarise the degrees of change that support organisations could embrace on the short or long run: staying as they are, creating better synergies for ecopreneurs within existing structures or setting up a structure dedicated to environmental start-ups. Among these options, only the last one could address ecopreneurs’ structural problem.

The last point made by this study is that ecopreneurs’ structural change cannot be led by support organisations. The support system’s *raison d’être* is to accompany change, not to create it. Therefore, it is the drivers of change’s responsibility to trigger ecopreneurship and to give it an identity that would be recognised and distinguished from eco-compliant companies, for example. Once the environmental start-up market is attractive enough to generate an opportune demand of ecopreneurs, the support structure will be able to evolve significantly towards a better set of help for environmental entrepreneurship.

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1. Introduction

1.1. *Research question*

This paper will focus its attention around one principal question: Can Scotland provide better support to environmental start-ups?

The start-up process is the most critical period in a business lifecycle. The design of the business and the vision of the entrepreneur take form at this stage. Therefore, a panel of tools and support are available to entrepreneurs through generic information and case-by-case support to facilitate and consolidate their project. However, some significant issues must be addressed by environmentally-driven entrepreneurs that conventional entrepreneurs do not have to deal with. (Linnanen, 2005, p.75).

The aim of this dissertation is to investigate whether the peculiar nature of environmental business start-up requires a specific type of support in Scotland and to determine if the Scottish support system could afford to provide it. A comprehensive analysis of this problem calls in-depth understanding of surrounding issues beforehand. This will constitute the basis of the objectives for the dissertation. The five following points constitute the milestones required in answering this topic:

- What makes a sustainable start-up different from an ordinary business venture creation?
- What are the support mechanisms available to “eco start-ups” in Scotland?
- To what extent does Scotland's support system deal with these differences?
- What are the reasons underlying Scotland's strategic choices for the delivery of this assistance?
- Are there potential improvements that would be worth investing in with a view to bringing about meaningful change?

1.2. *Why an answer is important*

This paper provides an insight into a topic that is fairly new both in the academic literature and in the real world. It explores Scotland's readiness to deal with a growing phenomenon and raises some avenues for reflection for an improvement in the different structures helping and influencing the creation of new business ventures.

An authoritative answer to this question could have useful applications.

- It would allow other research works to go further in fostering environmental entrepreneurship.
- It would also be a tool for the advisory systems studied for further improvements in the help they deliver.
- More globally an accurate answer would help in finding the right triggers to develop the creation of environmental business start-ups in Scotland.

The initial information resulting from this paper can be used in order to consider the possible directions to foster the genesis of a larger number of environmental business ventures.

1.3. *Limitations of this study*

This study cannot pretend to fully answer the question it raises. In fact many limitations are to be recognised in the information available as well as in the difficulty in coming to meaningful conclusions.

As a matter of fact, this subject is still under researched and partially unknown in the academic side and in the practical side. It has proved difficult finding secondary information that would encompass the support provided to environmental ventures and a great deal of effort had to be made in the synthesis of related sources to get an insight into the situation. Along the same line, it was also assumed that only partial knowledge could be expected from the stakeholders interviewed. A choice has been made on professional

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adviser to start-up or small businesses. This was expected to find the right balance between an overall view of the ins and outs of the start-up process and with a practical experience to rely on. Nevertheless, they are not experts neither the decision makers. Their opinion has been considered as potentially the most practical, but it does not provide with an insight into wider reasons that would enable or hinder change in the support provided such as political issues for example.

In addition, it is worth emphasising the challenge presented by the broader sustainability topic particularly in the context of entrepreneurship. These notions have multiple meanings if not vague meanings in both books and people discourses. Despite the definitional ground clearing done at the beginning, the constant manipulation of these elusive terms constituted a challenge to stay on track for a first-time researcher in a non-native language. More time, a wider range of interviewees and an increased linguistic ability to conduct a more pinpoint research focus would have given a deeper insight into the ins and outs related to this issue.

1.4. *Dissertation structure*

According to the outputs to be delivered, this study is divided into four broad sections. Literature review, research methodology, report on field investigations and the author's analysis and recommendations.

First, a literature review will critically underline the publications which will constitute the basis for field investigations and for overall analysis.

- It will explain exactly the scope and the meanings of the notions we use.
- It will give an understanding of who the ecopreneurs are as well as what their needs are, general and specific.
- It will find out who provides, or should provide help and who the experts are. This will help us to identify who has to be interviewed for our field investigations.
- It will proceed to a first examination of how effectively advice is given to ecopreneurs in Scotland and highlight the possible gaps existing in the current system.
- It will present some options for improvement adduced in academic literature.

Afterwards, the research methodology applied will be described and explained in order to establish the credibility of this study but also its limits.

- Describing the choice for secondary sources and the approach taken to gather the appropriate documentation.
- Determining who the interviewees should be and the process by which the interviews have been designed.
- Explaining the limits and pitfalls of the methodology and the consequences it has on the validity of the study.

In the third section, we will proceed to field investigations in order to investigate and get primary information about the help provided in Edinburgh and how it could be provided. This section will report professional opinions on the environmental start-up case.

- Evaluating the gap between what is needed by ecopreneurs and what is provided.
- Providing an understanding of the reasons for this gap.
- Discussing possible ways of improvement.

Finally, the author will formulate an analysis and his recommendations. Use will be made of the information gathered through academic and corporate sources in conjunction with professional “hands-on” perspectives to formulate a sound analysis of each of the following points. Ultimately, it will lead to an argued answer to the dissertation question.

- Where are the pitfalls of the support system in the assistance it provides to ecopreneurs?
- What are the different options opened to this network to address those weaknesses?
- Are these solutions suitable in the current context for Scotland?

2. Literature review

This chapter explores the written literature that would enlighten the current project. It aims to investigate the work previously done about the support system that environmental entrepreneurs usually use and about the key aspects surrounding it. This will constitute the basis for further investigations on two motives: As the starting point for field research and as a reference to rely on throughout the analysis. In order to provide the reader with a relevant overview of the situation, the literature review will focus on four main points.

First, one of the multiple definitions of ecopreneurship will be chosen and explained. This will help the reader become acquainted with the notions that are used as well as to give a scope to this study. Thanks to this definitional ground clearing, the reader will acquire a frame to contextualize the question and to avoid confusion when technical terms will be used.

Thereafter, special attention will be put on environmental start-up. Theories and previous studies are used to identify what distinguishes it from other forms of start-up and what particularities does this imply in terms of assistance needed. This is a crucial step to research what is done and what is not to support the environmental start-up process in Scotland.

Next, an insight of what is done in Edinburgh will highlight the role of support organisations and with what is provided to ecopreneurs. Data is gathered from websites, reports and articles. Although mostly descriptive, it provides a valuable understanding of the configuration of the support system and of the links existing in the network. This picture of the support network is necessary to examine if Scotland could get better and where.

Finally, this literature review presents two cases: a "sustainable business incubator" and a world-class champion city for sustainability. Thanks to these two cases, we get a deeper understanding on what kind of structure has been implemented to the overall system by focusing on environmental business start-ups and how a wider system encouraged environmental entrepreneurship. In relation to the research question, the incubator compares what is done in Scotland with best practice that can be discussed with

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professionals. The example of Berkeley in California contextualizes the support system in the long-run and within an overall supportive system at a city scale. It defines better the roles and prerequisites involved in fostering environmental business ventures.

Literature review's outcomes can be compared and contrasted with the Scottish context by professionals later in this dissertation. It will additionally constitute the scientific background underpinning the final analysis.

2.1. What is an “Environmental Start-up”?

a) A definition of Ecopreneurship

Ecopreneurship is a neologism that encompasses two notions: "ecology" and in a wider sense sustainable development; and entrepreneurship. Unfortunately the notions used here are multi-dimensional and thus too elusive to be fully captured by one single definition. However, it is the responsibility of the author to provide the reader with the perspective he undertakes on the concept so “that when entrepreneurship is discussed in theoretical or policy circumstances, we are clear about underlying assumptions and concepts being used” (Ahmed and McQuaid, 2005, p.9).

In the context of this study the definition chosen for ecopreneurship is **“The process by which a venture whose activity benefits or is neutral to the environment is created”**. Thus, an ecopreneur is **“an individual who attempts to create a business which will have, at worst, a neutral impact on the environment”**.

Isaak (2002) contributed to the definition of ecopreneurs by distinguishing “green businesses” from “green-green businesses”. Green businesses did not start that way, but became aware of the cost, innovation and marketing advantages, and implemented the changes necessary to obtain “the label”. In contrast, green-green businesses are those that were designed to be green in terms of both products and processes from the outset, and are also “intended to transform socially the industrial sector in which it is located towards a model of sustainable development” (Isaak, 2005, p.14). Isaak therefore defines ecopreneurs as being those individuals who found or set up green-green businesses, and Schaltegger (2002) suggests that ecopreneurs differ from conventional entrepreneurs only

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in that they also build bridges between environmental progress and market success. These definitions are very useful since they specify the necessary and sufficient conditions for a business being an environmental venture or start-up.

In addition Lansi Linnanen (2005, p.73) elaborated a useful classification of these businesses in four categories:

- Wildlife habitat conservation
<http://www.earthsanctuary.org/> is a good example
- Environmental technology or technologies
<http://www.enviro-tec.com/>
- Environmental management
Any eco-consultant for example
- Environmentally friendly products
<http://www.ecover.com/gb/en/>

Those definitions and classifications are of interest to get a first insight of environmental entrepreneurs. However, further research would be useful to spot entrepreneurs more easily, to encourage them better and to measure their impact. Are ecopreneurial initiatives more likely to appear in some industries than others? In one gender? In a sociological segment more than another? On what measure should we compare their respective success? A better knowledge of these issues could be applied in various measures such as adapting the channels by which the various support bodies foster this kind of initiative and also to enhance the specialised support that they must receive.

If environmental entrepreneurship is the best term to describe the subject of this study, the reader should take note that other terms such as “ecopreneurial”, “green”, “environmentally responsible” or “eco” will be used interchangeably. If these terms are not strictly synonymous, they all refer to a common goal and have been used alternatively in scientific surveys for a better understanding from the interviewees. As well ecopreneurship, environmental entrepreneurship and environmental entrepreneurs are all included in this definitional frame during throughout dissertation.

2.2. *Should environmental start-ups receive a specific type of help?*

The definitions established before state that Environmental start-ups are a case by itself. They are different from conventional start-ups and different from businesses trying to become green. It is interesting to understand these differences more in depth and to determine how they can become barriers for ecopreneurs in the creation of new start-ups. These barriers can potentially be identified as needs to be addressed by the support mechanisms.

For M. Schaper, any ecopreneurial venture is entrepreneurial in some ways, shape or form (Schaper, 2005, p.8). However, an ecopreneur is different from an entrepreneur. Lassi Linnanen argues that the “value-based leadership” often rightly associated with environmental entrepreneurs is a supplementary dimension in an environmental start-up that mainstream enterprises do not consider. In fact it adds some issues, many of which are challenges for entrepreneurs to face. (Linnanen, 2005, p.72)

a) Do ecopreneurs have special issues in their start-up process that conventional entrepreneurs do not have?

After over ten years' personal experience in the creation and management of environmentally friendly oriented business ventures in Finland, Lassi Linnanen (2005, p.72) classified these issues in three categories:

The challenge of market creation

The diffusion of environmental awareness is a key factor to support market creation for environmental technology, products and services.

The Stern Report (published in 2006), the media coverage and the political parties which put the environmental issue high on their agenda seemed to have helped in this purpose. In 2007 in the UK, 24% of those aged 18+ declared themselves as “keen to be green” and another 23% felt “confused but willing” (Mintel, 2007).

Despite this apparent awareness many concerns remain on the issue. First, the

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sustainability challenge is of a complicated nature. This is a source of much confusion in company marketing messages and thus in consumer perception. Therefore, “there is a natural inclination (for consumers) to require greater proof of a new or provocative idea than the one already believed to be true” (Linnanen, 2005, p.75). Sixty-three per cent of the UK over 18 consumers remains cynical in thinking that “companies are just using these issues to try to make themselves look good” (Intel, 2007). Another issue to change behaviours is to get people to understand the very complex cause and effect relation between their purchasing act and the impact on the environment (Linnanen, 2005, p.76). For Luhmann (1998), the socialisation of threats through social communication is a prerequisite to their elimination.

The finance barrier

The ecopreneurs' community seems to have few links with venture capitalists. “Many environmental companies seem to know little about the investment community, and many investors believe that ecopreneurs lack knowledge about the realities of financial markets and fail to grasp investors's interests.” Moreover, eco-innovations often need more than 2–3 years to be commercially viable as compared to conventional growth venture. (Linnanen, 2005, p.77).

As a result there is an obstacle to placing and obtaining capital, and environmental growth venture was estimated to represent a 0.1 per cent of the mainstream in the global market in 2002. (Randjelovic et al., 2002)

The ethical raison d'être

The ethical dimension has a major impact when a business tries to introduce a market held by mainstream competitors. It raises difficulties in the success measurement of the business. In fact, there is still no clear tool to assess how well a environmental business does yet and it is left to the entrepreneur's discretion to interpret his business performances and outputs. It also complicates management, especially in the case of redundancies since the business is considered as caring for social as much as for profit. Greater stakeholder involvement, and the need to balance environmental, financial and sometimes social concerns in developing and refining the business model, often extends the development cycle of environmental start-ups (Linnanen, 2005, p.79) which then does not help to find investors.

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To sum up, the issues that an environmental start-up has to comply with are:

- Following home-made landmarks and success criteria which deal with conflicting performances.
- Less flexibility towards figures and rationality-based management.
- Necessity to convince and to change consumption patterns and market structure, to create a market.
- Two challenges instead of one:
 - The overall activity of the business must have a neutral or positive impact on its environment.
 - Be economically successful
- The smallness impediments: lack of skills and human resources, lack of capital, lack of critical mass, lack of coordination and cooperation (Tagar and Cocklin, 2005, p.143).

b) Do these challenges bring needs of special support for ecopreneurs?

Many authors such as H. Schick (2005), S. Marxen and J. Freiman (2005), R. Isaak (1998), A. Pastakia (2002), A. O'Rourke (2005) and H. Petersen (2005) talk about the wider notion of ecopreneurship but do not focus specially on environmental business start-ups. Nevertheless, it is possible to select which of their propositions are relevant to our subject. From their analyses and from the challenges we have worked out before, we can classify the "green" needs for ecopreneurs in different categories:

A need for information

- On the solutions (products and services) available to small businesses to be green.

A need for expertise

- On the formulation of policies and regulations which would institutionalise and encourage the continuous search for better practices in firms.
- On operations and finances for an overall positive effect and an ethical allocation of wealth created by the business.
- On networking and procurement to know better on what criteria green procurement could be made and how to find the right suppliers and potential helping clusters.
- On how to find, to convince and to negotiate financial support from the various sources available.

A need for structures

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- To facilitate networking and promote mutual solidarity between environmental start-ups.
- To provide an easy and well-promoted access to accurate information.
- To rationalise resources' procurement and to overcome the cost issues for start-ups.
- To act as a lobby and push for a better recognition and market incentives.

A need for finances

- From the government.
- From privates.

A need for push on external factors

- On private investors.
- On consumers.
- On the supply chain (by regulations).
- On research and innovation.
- On government for incentives and regulations.

This chapter has described the peculiar nature of the environmental start up process. The added value they put above profit represent a challenge that is additional rather than different from conventional entrepreneurship. Three main difficulties are described before and a range of specific needs have been identified that need to be addressed.

2.3. The situation in Scotland

Many needs have been identified in the previous part. This paper will now compare them, especially about information, expertise, and structures with the help provided in Scotland. An extensive research has been undertaken, however, the lack of analytical documentation available about the support structures in the case of environmental entrepreneurship drive this study to focus on the primary research to evaluate how well the support is provided. This chapter acquaints with the way support is organised and with a first approach of how well help it is provided.

a) What can we find in Scotland?

For 2007/2008, in Scotland, a budget of £700,000 is dedicated to business support (Graham, 2007). The existing support to enterprise in Scotland can broadly be categorised

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as either mainstream (funded by central government and delivered through its enterprise networks) or specialist (funded from a range of sources and delivered by intermediary or infrastructure bodies on a regional or sub-sector level).

Mainstream support:

Scottish enterprise uses a segmentation process to identify organisations that either trade sufficiently or have enough growth potential to progress to its client or accounts-managed support (Graham, 2007). Its start-up branch, the Business Gateway, thus provides support to entrepreneurs with business plans.

Nevertheless, web tools such as guides, directories and general information are available on the web to anybody. An intuitive site map and interactive questionnaires compose a clear web interface which facilitate the right access to an appropriate specialised support.

Specialised support:

A large number of specialist bodies operate at national, regional or sub-sector level. Their areas of speciality are related to the different start-up stages as well as to sustainable business practice and innovation. The social enterprise business support is probably the closest one to the needs of environmental entrepreneurs for two reasons. First, there is the same idea of the delivery of value beyond profit maximisation which brings supplementary issues as we discussed before. Second, environmental and social entrepreneurs are not necessarily business minded and do not identify their initiative with mainstream business.¹

It is worth emphasising the role of universities and business schools as well since they develop business incubators to enhance and encourage entrepreneurship and innovation among the student population. They are also research centres and they educate tomorrow's managers and tomorrow's high-growth entrepreneurs. For example, Strathclyde and Stirling are considered as a research pole in sustainability management in Scotland.

If the author could not find an organisation or service specialised in environmental entrepreneurship, new organisations such as NESTA (National Endowment for Science, Technology and the Arts), the Centre for Human Ecology and Sustainable Scotland could

¹Comparison between Linnanen, 2005 and Graham, 2007

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provide this kind of support by different means. Networking bodies such as Senscot establish local or specialist networks for peer support. However, the networking has been rather sectoral in the case of the environment.

b) How does it deliver?

To assess the quality of the delivery in the support system, three dimensions are expressed in three questions: Is their enough? Is it accurate? Is it accessible?

Is their enough?

Great effort has been made by the different bodies to enhance the support delivered to entrepreneurs, especially to those qualified as “more-than-profit-businesses”.²

Therefore, environmental entrepreneurs can find a range of grants, loans, consultancy and awards to help them develop their business idea. From Edinburgh, 207 links came out on the Business Gateway tool to find out what support I could find for all the categories of environmental entrepreneurs considered in this study... Some of them were specific to the environment others were embedded within the mainstream businesses frame. There are many opportunities for an ecopreneur to find grants or awards for a project. He could also get support to develop his business idea; some organisations even give help from the formulation of the idea, before the business planning. In relation to building partnership and addressing procurement issues, an ecopreneur can discuss it in business clusters or access some websites referencing ethical businesses.

Is it accurate?

No written literature could attest to this precise case. However, in their paper Freiman, Schick and Marxen (2005) find that the business adviser they interviewed knew little about sustainability. Industry knowledge is crucial in the start-up process but environmental knowledge within sectors might help in the case of higher market resistance that eco-start-ups have to face.

In the case of Scotland, research³ has identified gaps and inconsistencies in the provision of support for social enterprise development, including significant regional variations, a

²*Better business, A strategy and action plan for Scotland pdf (2007)*

³*Support Needs in the Social Enterprise Sector, Senscot/Communities Scotland (pdf (2006))*

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lack of strategic co-ordination and signposting, and inadequate resourcing of specialist support. The decline of EU Structural Funds, which helped finance many specialist support services, has provided added impetus to this issue. This can be of interest when we acknowledge the similarities between environmental start-ups and social start-ups (market resistance, longer development cycle, and the necessity to cope with divergent bottom lines).

Is it accessible?

The Scottish government is in the process of restructuring the advisory system in order to provide all kinds of entrepreneurs with “a pipeline of support” that would coordinate the signposting of everybody to the right advice and support in the enterprise networks.⁴ These improvements and their applications in the case of environmental start-ups can only be checked through primary research further on in this dissertation.

In terms of communication, these services are promoted through business networks and media as well as sector information and universities. This is probably not targeted at the uninitiated, however events such as “green ideas” competitions get a wider audience to commit to enterprising initiative. For instance, the big green challenge, the shell springboard, the Ben & Jerry's climate tackle competition and more, are all incentives for environmental innovation.

To conclude on the help provided in Scotland, we can say that a significant network is set up and much support is available. However, environmental start-ups are not taken in account as a whole and no organisation is specialized for their case. A number of weaknesses have been detected a year ago in the provision of support to comparably alternative start-ups (social enterprises) and the network is evolving for a better coordination of effort and more specific support. Due to the lack of relevant performance measurement and analyses available on the web a field investigation needs to determine to what extent ecopreneurs receive adequate help. This study has confirmed the prevalence of Scottish enterprise in the delivery of this support. Other organisations such as social enterprise support organisations, NESTA, and environmental agencies proved themselves to be as pertinent for interviews during field researches.

⁴*Better business, A strategy and action plan for Scotland* (pdf (2007))

2.4. Are there examples of best practice abroad?

Two examples of best practice have been chosen for this literature review. The first one is a sustainable business incubator that appeared in The United States; the second example is one of the leading cities in the world for sustainability, the city of Berkeley. These two examples aim to provide the reader with a model of best practice at different levels. The sustainable business incubator will be used to show how a specialised structure brings value upon the support system it is part of. Further on, a discussion will take place with professionals to contextualise this example in Scotland. Next, a more global view on how sustainability is fostered at a city scale is presented. It shows how environmental business support needs to be integrated in an overall strategy and details the place of the support within this strategy. This will be valuable to demonstrate to what extent the Scottish support system can enhance its services for ecopreneurs.

a) Sustainable business incubator

The sustainable business incubator that has been chosen is initially conceived as a "virtual incubator", i.e. offering the services provided by traditional business incubators other than lab or office space. It may, however, include access to conference facilities, research facilities and administrative support services. A business incubator is a facility designed to assist businesses to become established and sustainable during their start-up phase.

Typically, they do this by providing:

- Shared premises
- Business advice
- Business services
- Access to investor, market and international networks
- Mentoring
- A full-time, hands-on management team. (Chamber of Commerce and Industry of New Zealand, 2008)

The incubation period for an individual business is normally two to three years; it can go up to five years for sustainable businesses. US statistics show that business incubators increase the survival rate of start-ups from 35 per cent to 87 per cent. (Institute for Sustainable Enterprise, 2008).

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Little information is available about the added value sustainable business incubators bring over conventional ones. However, the website itself showed a wide range of case studies, links to partners, university programmes and information related with sustainability. Further research will be undertaken later on in this study on the added value sustainable business centres represent.

b) Sustainable city

The second best practice example is in fact a city. The city of Berkeley is a world-leading example towards sustainability and based its success on the commitment of key parties towards an ambitious strategy for sustainability. Promotion of environmental start-ups is part of this strategy. This goes beyond the scope of this study but it has the advantage to highlight strategies and initiatives that rely on a partnership model of economic development, in which the city of Berkeley, the sustainable business community, the University and key founders have collaborated to create systemic change and a comprehensive sustainable economic development strategy. If this strategy cannot be detailed here, the key points of it are:

1. Strategy Development Process

- Create a steering group of key stakeholders based on a partnership model of economic development
- Define “sustainable business”

2. Provide Sustainable Business Awards and an Annual Ceremony

3. Establish Green Financial Models

4. Establish Green Procurement Goals for the City

5. Amend Zoning Rules

6. Develop and Launch a Sustainable Business Incubator

7. Establish a Consortium to Support the growth of Sustainable Industry Clusters

8. Develop Retention, Cultivation, and Attraction Strategies Based on the Vision of Berkeley as One Large Eco-Industrial Park (Attkisson, C. 2004).

It is interesting to bear in mind an example where a systemic dynamic has been put in place rather than solely quick-fix solutions to address a snapshot analysis of a situation. It is particularly true for an issue that is really embedded within market fluctuations and changes in society. It is interesting to observe how sustainable business incubators and industry clusters are among the last steps of the strategy.

2.5. Conclusion

We have seen in this literature review the peculiar nature of ecopreneurs in comparison with mainstream entrepreneurs. The supplementary value existing in their business or in their projects brings new challenges to face and thus specific needs to be addressed. These needs are particularly relevant to the support system in terms of the type of information needed, of expertise required and of necessity to be integrated in a bigger entity. In parallel to that, we could observe how this initiative is worth fostering and how solutions are burgeoning from the academic literature but also in “real life”. Regarding Scotland, a battery of tools and support exist to assist entrepreneurship. Many improvements are still under development and already sustainable management and social enterprise are encouraged. However, nothing has been found so far that would focus on the ecopreneurship issue. Best practice examples and a comparison with the case of social enterprise have shown that there are reasons to think that this lack of specialised structure could slow down or hinder ecopreneurs in their start-up process. Finally, potential enhancements have been highlighted for a forward step towards environmental entrepreneurship. Field research will therefore investigate how lack of expertise, of specialist resourcing, of appropriate media for communication and of strategic coordination represent a barrier for ecopreneurs and what strategic directions are available to Scotland on this issue.

3. Methodology

The following chapter aims to outline the approach chosen to undertake this study, the sources used and the reasons underpinning these choices. These explanations are for the readers to understand the pathway used for investigation, and to assess the credibility and the thrust of this paper. This methodology outlines the type of sources that have been used and explain the reasons for this choice. Next, it presents the approach chosen and the methodology designed to gather information with as much objectivity, reliability, and validity possible with the resources available.

3.1. Types of sources chosen

For the literature review, a variety of secondary sources about entrepreneurship, innovation, sustainable business and ecopreneurship have been consulted. This has been mainly undertaken on refereed journals although books, past student dissertations, the web and DVDs have been used to understand the very complex concepts surrounding this issue. Regarding secondary sources, the sources have been found by random browsing of key words. Another method used has been to focus on peer reviews and to explore the sources they referred to. At various conferences attended, the author also systematically asked professionals he met about publications they would recommend.

The same network approach has been chosen for primary resources. Systematic demand for contacts and business cards has been operated since November 2007. Besides the professional advisers, other groups of people could have been interviewed for this study, such as policy makers or ecopreneurs. However, the advisers are probably the most balanced source of information between overall vision and hands-on experience and the number of interviews had to be limited for timescale reasons. A questionnaire was considered but it would not have been the right approach. The need for information was too qualitative to be obtained by email and the terminology issue would have undermined the results.

3.2. *Choosing a research method*

Three research methods have been used during this study. The first one was a semi-guided interview to business advisers. The second one was questions by e-mail to international experts. And the third one was a telephone interview with the manager of a best-practice example in the United States. Each of these methods is outlined below.

a) *Semi-guided interview*

Three semi-guided interviews have been given to potentially key actors in the environmental start-up process. Asking professionals whether or not a different set of help should exist for environmental entrepreneurs was the most practical way to have a global perspective and a pragmatic opinion on the topic. It was previously said that there is no structure in Scotland that would specialise in sustainable entrepreneurship. Thus, the approach chosen to get the most objective view of the situation has been to adopt a triangulation approach of this issue. Professionals working with start-ups in the three areas of sustainability were asked: conventional entrepreneurship, social enterprise and environmental management.

Semi-structured interview was applied because, in this type of interview, a core of issues can be set at the beginning, but at the same time allows free space for interviewees to decide the sequence and the relevance of that core of issues. Therefore, a set of questions was designed at the beginning of an interview and during the interview the researcher would follow and reflect particular opinions on an ad hoc basis (Freebody, 2003, p.133). For a more detailed report of the interviews, please refer to the note taking in appendix 2 and to the semi-guided interviews' analytic report in appendix 3.

By using semi-structured interviews, it was hoped that interviewees would speak freely, and give in-depth and rich information. This flexibility was particularly important, since the area of expertise was different for each of my interviewees. At the same time, core issues would be kept and it would provide a degree of uniformity in the information collected. Open-ended questions were used with the intention of letting interviewees express their viewpoints freely; hence investigator bias could be avoided (Kumar, 1999, p.118). However, this approach can cause interviewer bias (Kumar, 1999, p.118) and can reduce the possibility of direct comparison across interview data (Freebody, 2003, p.133). Mr

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McGregor has been finally unable to give a face to face interview but answered by e-mail to a specially modified questionnaire-interview in conjunction with Louise Fife for accurate answers.

To gain entry with them, it was planned to use the contacts the author made as an entrepreneurship student, as a student intern for the Scottish Institute for Enterprise and by going to different conferences and networking events during the year. It allowed him to have a first approach of this issue and to collect business cards from potential future interviewees. A list of the conferences attended can be found in the bibliography. Among the business cards used to interview appropriate professionals, only one negative answer has been encountered. The next step was to get to know the names of other people who might be interviewed and to call them; one person finally accepted to be interviewed after five attempts. The usual method for refusal seems to consist in asking for an e-mail to which they did not answer or answered negatively.

The main limit of this method is that it relies on the skills of the interviewer (Riley et al., 2000, p.38; Freebody, 2003, p.330). To minimise this potential problem, a pilot interview was led with a business adviser from Napier University to see how clearly questions were understood and how accurate the answers were in relation to the information needed. Changes took place before the real interviews. For example, providing the core of issues with existing examples to interviewees beforehand has been a very useful change of methodology. Considerable time has been saved since they had time to be familiar with the subject and to refresh their memory about the environmental entrepreneurs they could have helped during their career. More generally, every end of interview was an occasion for debriefing in order to improve the author's interview skills.

One regret of this study is probably not insisting enough to get an interview from Business Gateway, Business Link, Envirowise, and, in particular, Sustainable Scotland. Trying by phone and following their instructions to send an e-mail request was probably not enough. Business reflexes such as asking for a direct phone number or giving an ultimatum for recall could have been useful.

b) E-mails to experts

In the secondary sources available, some publications mentioned issues that were critical to this study but without developing it. In two cases, no substitute of information could be found and the last option has been to contact the authors directly. Three authors of articles in referred journals were contacted either by e-mail to ask them precisely what they meant. Here, the purpose was to answer one very precise point. It was partially reckoned that these experts would be too busy to answer a questionnaire. Thus, a choice to pinpoint one very precise detail of their publications was made, hoping that some development would be made. One of them answered. You can find the e-mail answer of Professor Jürgen Freimann about the special advisory that should be provided to sustainable business start-up in appendix 4.

c) Telephone interview

The manager of one of the first sustainable business incubators created in the world has been interviewed by Skype (see appendix 5). The author masqueraded as a journalism student writing a paper to make sure the manager would answer his questions. Here again, special questions has been written on this precise case to understand what approach was taken by this centre to add value to the global advisory system. The manager has been asked if he was happy to be named in an article writing for a university in Edinburgh. This clarified the terms of confidentiality of the data collected. Concerning the interview itself, the same methodology for the other semi-guided interviews has been followed but without pilot.

4. Field findings

The literature review could not be used alone to formulate a sound answer to the research question. Occasionally, it has been mentioned that further investigation would complete the knowledge gathered in the literature review. So far, theories and previous studies provided the reader with a definitional frame and a list of needs that are specific to environmental entrepreneurs. Websites and various written publications described the advisory system, detected some defects it might have and have shown some relevant examples that could inspire improvements. This data is not sufficient and not in-depth enough to answer the question alone. Therefore, this part is a report of what has been found in the field via face-to-face interviews, emails, telephone calls, discussions and observation. This investigation has two purposes. On the first hand, it aims to contextualise the theories and experiments within the context of Scotland. Based on their experience, advisers will discuss the validity of the findings gathered in the literature review and the viability of the options highlighted so far. On the other hand, it is an opportunity to gather complementary information that could complete the study and answer crucial questions remaining after the literature review.

This chapter is divided into two parts. The first discusses the literature review findings in relation to the dissertation question. It explores professionals' opinions about the needs expressed so far and to what extent these needs constitute barriers for ecopreneurs. It also looks into the support system and ascertains its shortcomings in addressing ecopreneurs' needs or minimising them. Finally, it talks over the solutions put forward by researchers or implemented in other countries, and assesses their relevance to the Scottish context. The second part will focus on the complementary information brought by field research. Indeed, rich discussion helped to clarify the roles various organisations take towards environmental entrepreneurs as well as the role of the support system itself. The conditions that need to be met to bring about change within this network of institutions are another key point. Finally some practical options and solutions are expressed by the professional advisers.

4.1. Professionals' opinions of dissertation's findings

Regarding their own specificity, the business advisers who have been asked had significantly different experience with ecopreneurship. It is interesting to expose some of the differences that distinguish them prior to collect and put forward their answer. Eileen is working for Unltd which is an agency promoting social entrepreneurship. Her client portfolio is mainly constituted of environmental start-up. It is actually the second most important type of project after art-related projects. All these projects are turned towards community regeneration. Derek and Louise work for the Scottish Environment Protection Agency (SEPA); they are specialised in resource efficiency and provide consultancy to existing business. Louise coordinates waste reduction programmes. None of them works directly with “new” entrepreneurs. Rebecca co-manages the Launch.ed, a business incubator based at The University of Edinburgh. Yet she has had barely any experience with ecopreneurs (1 out of 150 to her estimation) but she works in conjunction with the scientific community within the technology transfer centre in The University of Edinburgh. Jonathan Cloud is development manager for the sustainable business incubator in the United States. This incubator is only one year old but grows rapidly. Jonathan does not know anything about the local situation but shares his own experience. To finish, Dr Freimann is professor and head of the corporate environmental management research group within The University of Kassel, Germany. He is also author of numerous publications in the fields of general management, methodology and environmental management.

a) What special needs DO ecopreneurs have?

Divergent opinions emerged in the different organisations about this topic. For Rebecca (conventional business adviser), “the business process is always the same” and environmental entrepreneurs are to be helped case by case, though necessarily as other entrepreneurs would. Eileen compared the case of social entrepreneurs with environmental entrepreneurs. For her, these entrepreneurs are special by nature and are not necessarily business minded. She acknowledges that a different approach must be taken for them.

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More generally, technical knowledge and resourcing to get green are not needs that are really peculiar to environmental start-ups. However, expertise on the environmental market and especially the need for strong networks and strategic coordination has been assessed as predominant needs for them. Throughout the discussions the researcher realised that the classification of ecopreneurs' businesses that was used (eco-friendly product, natural habitat conservation, management and technologies), was not perceived that way by the advisory system and thus probably not operational in terms of needs. Therefore a different classification has been decided: community-driven business, technological business and traditional businesses which would find answers in innovation centres, social enterprises or enterprise networks.

b) Among the barriers highlighted, which ones can really be pinpointed in Scotland?

Business advisers acknowledge the existence of these potential barriers but they unanimously minimised them. Rebecca summed up the idea generally expressed: If somebody can not carry out his idea by himself and get out there to find and overcome these kinds of difficulties, he probably does not have "what it takes to be an entrepreneur". Supplementary barrier was raised during these discussions about the positioning of business support in their communication to students or to potential entrepreneurs. It came out that the way Launch.ed communicates is probably too business focused and intimidates both scientists and environmentalists (the slogan is: "have you got a business idea?"). In fact, it has been identified as a problem by Rebecca's team. For example, two years ago they organised an environmental start-up competition and nobody turned up with ideas. For the social enterprise adviser, ecopreneurs' nature could be a reason for a gap between mainstream entrepreneurship assistance and environmental entrepreneurs since "budget and cash flows can be very intimidating". Derek and Louise, from SEPA, recognised that very little networking can be found in Scotland for environmental businesses. The others were all surprised that no sustainable business network already exists in Scotland, but both the social adviser and the conventional adviser thought that it should exist in some ways within the existing sector networks.

To sum up, barriers exist but must be overcome by a "real" entrepreneur. However, the start-up support style is probably not adequate to attract hesitating environmental

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entrepreneurs.

c) How realistic are the solutions mentioned in the Scottish context?

Advisers were shown successful foreign examples of attempts at encouraging ecopreneurship and were asked to react to these facts in the context of Scotland. The three attempts are: the sustainable business incubator, an example of an environmental business cluster and train-the-trainer programmes. A description of these cases is given in appendix2.

A structure such as the sustainable business incubator was described as potentially useful to fostering ecopreneurship. Particularly in the form of a virtual structure which would allow access to remote areas of difficulty and to limit investment. "People with skills, the right approach, the right contacts and the right promotion could help to drive this (environmental start-ups). And Scotland needs it." Mr Cloud himself emphasised this potential. He pointed out that the expertise and experience of the adviser in the sector is beneficial. He is more able to understand the technologies, spot the market opportunities, help in positioning and connect with the right "strategic partnerships", investment bodies and government programmes than conventional advisers. The focus of the centre allows him to follow "fast moving legislation" and to have an overview of the sector especially on the "cleantech" market. More generally he argues that the business incubator is able to take new angles on things. The centre acts as a hub of information, investors, entrepreneurs, businesses, policy makers, NGOs, university graduates and research. It also proactively fosters sustainable entrepreneurship through conferences, intervention in schools and the various programmes they participate in or co-organise. "We have connections everywhere"; "everyone knows that we exist". More generally, Mr Cloud compares his centre with other specialised business incubators in communication, life sciences or software. He emphasises the importance of the contacts that these centres can get as a strong added value. Nonetheless, such a structure raises other issues: who pays? How do you get cooperation from universities coping with their internal politics? Another institution will add to the confusion.

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Business clusters and networking are essential to the business start-up process. But it is already happening more or less in different industries. A hub would help to coordinate environmental initiatives within industry clusters and beyond.

Training of business advisers would be useful if somebody pays for it. It would not help ecopreneurs directly but it would probably raise awareness among the conventional entrepreneur community and thus create more market opportunities.

Among the solutions exposed, advisers seemed convinced by the effectiveness of the incubator but expressed much doubt about the possibility of realising it in Scotland. Business clusters are considered as a “must have” for environmental entrepreneurs but it has been recognised that the ability of the current institutions to work on it was probably limited, at least in the organisations interviewed. Finally, train-the-trainers would have many benefits but not particularly towards environmental entrepreneurs.

4.2. Additional information collected in field research

a) Roles clarification

The roles are clear and strictly defined for advisers. It cannot be generalised for methodological reasons but the panel interviewed was relatively consistent in their signposting. For instance, Derek would Signpost me to a precise organisation every time he knew little about a subject. They also all used Scottish Enterprise as a hub of information related to entrepreneurship. One organisation has been commonly cited for environmental entrepreneurs: National Endowment for Science, Technology and the Arts. Thanks to this consistency, a picture of the configuration of the support system could be drawn. It has been redefined as follows:

- Business development services, e.g. Scottish Enterprise and Business Gateway
- Networking services, e.g. business link and lincs
- Resource efficiency services, e.g. Envirowise and SEPA
- Community development services, e.g. Unltd and Firstport
- Innovation development services, e.g. NESTA

Within this configuration, the social enterprise networks have some advantages for

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environmental entrepreneurs. This greater success could be explained by a similar added value that distinguishes social businesses from mainstream businesses and because many environmental entrepreneurs are also interested by the social impact of their business. Regarding various aspects during the start-up process, the recurrent remark was that only advice could be given and there were no “right or wrong answers” to impose on ecopreneurs. There are plenty of organisations with the environmental knowledge that could be asked and which could eventually help one to find the right person to talk to. It was said that environmental knowledge is useful but is not a speciality start-up advisers must have.

b) Conditions influencing choices

The different structures that have been scrutinised through interviews showed a real flexibility and seemed able to cope with a range of situations. However, it has been confirmed during the interviews that funds were hard to get and that any decision for change would need to be convincing and to prove its effectiveness to last. The main conditions cited to take environmental entrepreneurship into account are:

- A significant demand from ecopreneurs.
- One or various funding bodies.
- It has to find a clear differentiation and it could be hard to avoid adding confusion. “There are so many organisations already.”
- More understanding and awareness.
- A clear focus and definite goals to achieve.
- It must be cost effective (thus small enough) and efficient throughout all Scotland.
- It must be independent from universities to avoid “internal politics issues” and have a national impact.

The support system is relatively flexible. More precisely, it can cope with a variety of situations. However, it is dependent on funding and thus subject to a great reliability that restrains its ability to change. A case for environmental entrepreneurs has to prove a lot before justifying a significant change. The check-list above illustrates this. Nevertheless business advisers had some propositions to improve the situation under the same pattern.

c) Other solutions considered achievable

A few solutions were expressed during the different interviews as improvements that could offer better support to environmental entrepreneurs:

- Better links between mainstream entrepreneurship and research schemes.
- Better access to directories for environmental issues with a focus on entrepreneurs such as an internet platform with different information about tools and chances of emerging eco-markets, cost-reductions and other special strategic advantages for firms in the context of eco-technologies.
- Better market incentives (tax cuts, more public recognition based on contribution to public welfare).
- Business clusters, focused on precise points and with regular networking.

If these solutions could address ecopreneurs needs better, they mostly facilitate the path to entrepreneurs who would have found their ways in any case. It is likely that fostering ecopreneurs would require too much resource to be achieved. Referring to the dynamics of ecopreneurship that can be found in appendix 6, one can wonder why a phenomenon that is likely to be so significant in the future faces so many difficulties being fostered in Scotland. The analysis chapter tries to find the missing link in this matter.

To conclude, these interviews brought a lot to this dissertation. A hands-on perspective on the theories and previous studies led to a more qualitative understanding of the ecopreneur issue in the Scottish support system. It was found that most of the needs are addressed by alternative ways and some barriers are still present. The real barriers for advisers can be reformulated by the lack of strategic coordination and the inability to foster ecopreneurship. In addition, further insight into the network allowed the author to understand better where responsibilities lie and led him to re-forming the classifications used for the businesses to fit within the advisory system. Some pragmatic solutions have also been formulated which are an initial thought on the extent of change that can be achieved in Scotland for ecopreneurs.

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One regret, however, is to have not interviewed central actors who are advisers from either the Scottish Enterprise or the Business Gateway. The interviewees sometimes knew little about issues that would have been worth investigating, such as the decision-making process and internal strategies or priorities that would not be published on the websites.

Nevertheless, the pilot interview led by Nick Fannin gave me some material to compare the differences of opinion of two business advisers. It appeared that the perspective they took had similarities, for example, a systemic concern on where the money would come from, on the notion of market demand for support, or on the scarce contacts with ecopreneurs they have had so far. Eileen also provided good overview since she shares the same office as the other social enterprise organisation, Firstport. During the interview she referred four times to the work undertaken by Naomi Johnson and when I asked her she confirmed that they were working in close collaboration. Mr MacGregor's interview has finally been completed on the web but in collaboration with Louise Fife for more complete answers. An entrepreneurship perspective could also be gathered from Jonathan Cloud on the environmental side.

5. Analysis

So far, we have gathered a comprehensive literature review about the theories and studies that helped with the understanding of the situation. Field investigations were used to give a more analytical insight into the environmental entrepreneurship case as well as a hands-on, pragmatic perspective on what options are available to Scotland to improve this issue. To date, we have understood what barriers can slow down existing ecopreneurs and which ones can stop hesitant, enterprising people develop their environmental business ideas. In addition, professional advisers have generated a range of solutions that could facilitate ecopreneurs' access to appropriate support. They also commonly lead the author to the conclusion that fostering help would demand too much investment for significant progresses to be implemented.

These findings could constitute an answer to the dissertation question. However, it would be a partial answer. This paper does reply to a snapshot of the situation, when sustainable entrepreneurship is a phenomenon that is deeply embedded into a fast moving environment. The systemic factors that trigger ecopreneurship (see appendix 6) call for a long-term perspective on this issue. In addition, if we know whether Scotland could do better, we do not explain why. The literature review Provided partial knowledge because no such study has been undertaken before and because local information was solely descriptive. Field research cannot be conclusive since the professionals were also dealing with partial knowledge and no progress was made on the subject.

This analysis presents an analytical answer based on the two pieces of research previously undertaken. In the first piece it provides a detailed analysis of what can be found in Scotland in terms of service available and of efficiency in this service in supporting entrepreneurship. Next, three options will be presented as possible strategic directions for improvement towards ecopreneurship. These options will be discussed in the advantages they represent and the pitfalls they suffer. Finally an answer to the question "can Scotland provide better help?" will be given, explaining the reasons behind this answer and providing recommendations for further evolution in the future.

5.1. How does Scotland deal with ecopreneurs' needs?

In the framework below, a comprehensive matrix tries to explain how ecopreneurs get support for their needs. To do so, it crosses the needs that we have identified as relevant to ecopreneurs in the literature review with an adaptation of the classification of support structures described in the Berkeley sustainable business development model, (Attkisson, 2004). In each case:

- A green light shows that an ecopreneur would find assistance adapted to his particular status
- An orange light shows that he could probably find something for his case, but that it requires other variables (luck, perseverance, resilience).
- A red light shows that it is either not applicable or not available



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	Business development services	Networking services	Resource efficiency services	Community development services	Innovation development services
Definite official Goals and landmarks for eco-efficacy.	Not Their Job 	No consensus 	No official distinction 	Focus on social 	Non Applicable (N/A) 
Contacts with investors, research, policy makers	Depending on Business Cards 	Web 	Closely Linked 	It is their role 	Clean technologies 
Information on environmental market	Not Their Job 	Asking during events 	Closely Linked 	For communities at least 	Linked to cleantech 
Entries to sustainable industry clusters, access to mentors	Lack of contacts 	Engage sustainability debate 	Very little exist 	For communities at least 	Via Cleantech 
More flexible and better integrated support	In universities 	N/A 	N/A 	Exist for this reason 	Selection on high growth 
Technical expertise	Luck on Advisor 	N/A 	Not "for" start-ups 	For communities at least 	Exist for this reason 
Communication through the right channels and medias	Just business 	Focused on sector 	Not to Start-ups 	Proactive 	Yes but Loose links with enterprise 

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This framework shows that by one means or another, ecopreneurs' needs are covered. If we take the case of environmental ventures, the special needs each category experiences are specifically addressed in one or more structures. As mentioned in the field findings, the classification used by Linnanen (2005) can be redesigned to fit with the support structure existing in Scotland. Wildlife habitat conservation business models raise needs that are addressed by the community development services. Environmental technology or technologies ventures find special attention in the technology transfer centres or thanks to innovation incubators. Environmental management businesses are professional organisations and thus can find their own way with some conventional business support. To finish, environmentally friendly products or services, depending on the business model, can be both treated as a normal entrepreneur on the green market (e.g. Ecover) or as a community-focused business and thus receive specific assistance (it is much the case for recycling initiatives for instance). In other words, help is sometimes widely distributed but available.

Nevertheless, this dispersion of the support available poses a problem. It allows existing ecopreneurs to make their way in business but does not create a dynamic that would encourage ecopreneurship. It encourages neither the creation of environmental ventures nor the emergence of sustainable businesses.

As we can see in the matrix, no consensus exists in Scotland about which venture could be qualified as an environmental business. It is at the discretion of an entrepreneur to define his own criteria for performances and to keep up with it despite the additional burden it may imply.

This raises supplementary limits. There are policies to encourage the greening of businesses but apart from green idea competitions, few would give recognition or facilitate ecopreneurs. How can you reach a market advantage if you receive no more incentives and nothing can differentiate you from a business getting the same green label for dealing with eco-efficiency or eco-compliance?

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Moreover, without a unit for coordination there is no visibility, no pro-activity and thus no detectable development of these businesses. Nobody is in charge to create or support this idea in strategic places or gatherings, or to lobby the government for more market incentives. Tax incentives for investors, amending zoning rules, creating social awareness via awards or measures to help consumers recognise best practice would help to create a market for ecopreneurs and sustainable businesses. No research is pursued and there is no structure to develop a business that would be sustainable simply because it virtually does not exist. Interestingly on the matrix, the greenest column has a very high rate of environmental ventures. It shows how social ventures have enhanced and integrated the help they provide for community development initiatives especially through business clusters. It can be construed as either: numerous ecopreneurs are community development driven or/and it addresses their specific needs well. However, it still does not provide an identity for ecopreneurs.

To sum up, the needs are all covered and an entrepreneur with a high focus can build his sustainable venture with a pick-and-mix approach to support. This approach is much easier when the business model is eligible to pass by the social enterprise network. However, a lack of global strategy, definitional consensus, specific incentives and a dedicated, proactive structure are likely to lead many potential ecopreneurs into confusion, intimidation and isolation. A last point though is that some new networks have been created recently for sustainable development (sustainable-scotland.net) and are still under development.

5.2. What could Scotland's Strategy be?

To address these weaknesses in the support provided to ecopreneurs, Scotland faces three options: Stay as it is, improve existing services or create a new structure. The next part will develop the strengths, weaknesses and prerequisites to each of these strategies.

a) Wait and see

Stay as it is could be reformulated as a “wait and see” option. It has the advantage of waiting for a deeper and more generalised knowledge of ecopreneurship before taking action. There are already many fields where public and private investment must be made within sustainability. Thus, it could reduce risk and be economically efficient to let others lead the way. Countries or areas such as the Aylesbury Vale in south-east England are developing a formula that could be copied afterwards (AVA, 2006). However, this option would deprive Scotland of a potential powerful lever towards sustainability for years. It would also waste good opportunities for many ecopreneurs to directly contribute to change and to social welfare. Last but not least, Scotland has significant potential to take the lead in sustainability and ecopreneurship. Scotland has a tradition for innovation, powerful natural resources, a deep attachment to its natural heritage, a strong economy, the availability of inputs such as skilled labour or capital assets in a relatively small area and well-developed infrastructures.

b) Building bridges

Scotland could also integrate ecopreneurship better in existing services. This strategy could be called “building bridges”. Better links between research, innovation centres and business incubators could, for example, be a source of synergies for commercially viable research and development. It would have the advantage of using already established and recognised organisations, and with a minimum of funding. A start-a-sustainable-business section in the sustainability networks with a clear directory could also be a useful tool for business advisers and for ecopreneurs. It would provide better integrated support and more structured assistance to ecopreneurs. This solution appears as a pragmatic compromise between encouraging ecopreneurship and limits the Scottish

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investment and commitment to a cause that is still very hard to measure.

However, this method would present some pitfalls. In existing structures, there is a risk in asking hard-working advisers to build these kinds of partnerships and bridges with other institutions. It might be considered an additional burden and end up pigeonholed. The problem then is that it could probably facilitate the approach to ecopreneurs but nothing would warrant a rise in the demand for it. Indeed, it does not address important problems which are the lack of sustainable industry clusters, the need to be unified by a hub and the presence of somebody to push compliance, value and market drivers to grow the networks.

If the facilitation option was to be adopted, prior measures would have to be taken to ensure a successful implementation of the strategy. A consensus has to be found on what is a sustainable venture and with what standards it can be measured. The different partnerships created have to formulate strategy and goals around the idea and to set up processes that could realise it. No research has been done so far on what categories of people are likely to become ecopreneurs or even to measure how many ecopreneurs are emerging in Scotland. This could be a step towards defining appropriate involvement in the cause from the support mechanisms.

c) Dedicated structure

Solutions such as a business incubator, a service within an existing institution or simply an internet platform with a range of information about tools and chances of emerging eco-markets, cost-reductions and other special strategic advantages for firms in the context of ecopreneurship, would all require a dedicated staff with appropriate skills. These organisations would be able to offer the visibility and to create the hub necessary for an identity of environmental ventures and thus facilitate the creation of clusters around the sustainable theme and not only as a competitive advantage in their own industry. It could also facilitate the dialogue with government for a better recognition of the outputs they have for society.

However such a group has a cost and could not be sustained if a significant number of participants do not take part. It requires an evaluation of the potential ecopreneurs who would take part in the initiative which is not possible before a first definitional consensus

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mentioned above. These organisations, virtual or with premises, need a first basis to expand. And their implementation would make little sense if they have to create the demand they exist for.

5.3. *Towards a sound answer*

This part shows that most of the change options towards improvement require prior action in various domains. Among the stakeholders who will lead this change, the government has a great stake to take through market-driven incentives in particular. Detailed recommendations in this sense are provided in appendix 7.

In fact, the main reason for explaining this lack of ability to change goes beyond this. It is because it is not part of their role. Due to the nature of their business models, support organisations experience a very high accountability towards their funding bodies. Thus, they can only concentrate on existing demand and it is not their responsibility to take the lead in change. For this reason, support agencies will have duties at a much later stage of the environmental entrepreneur's lifecycle. Following the development of the city of Berkeley, these stages should logically unfold in this order (see Sustainable City in literature review):

- 1) Definition of the ecopreneur and of landmarks to distinguish it from "green" businesses (Isaak, 2002).
- 2) Evaluation and circumscription of the ecopreneur market or, more widely, of the sustainable enterprise market (which are clients of ecopreneurs).
- 3) Establishment of a strategy towards environmental ecopreneurs.
- 4) Development of the market through incentives and tools.
- 5) Development of appropriate support structures.

To the question "can Scotland provide better support to environmental entrepreneurs?" the answer is: Not significantly on the short term and not as long as it is not fully integrated in a wider development strategy.

6. Conclusion:

Environmental start-ups are still a very new phenomenon and remain under researched and unsung for many of those who could be stakeholders of their development. This dissertation has analyzed whether Scotland could provide better help to environmental start-ups. To answer this question, an extensive investigation has been led. The theories and studies on the topic have been deeply explored and a strong academic frame has structured the author's reasoning. This theoretical basis, then, has been presented to a panel composed of experts and professionals. These authorities have added complementary perspectives to triangulate a topic previously undefined in Scotland. The work undertaken has been mainly qualitative and can consequently hardly be representative generally. Indeed, the information gathered is subject to interpretation from the author. However, attention has been put throughout this study on objective arguments rather than impressions and a lot of research has been led besides this dissertation to understand a very complex environment. This continuous cross checking is believed to give as much reliability to this paper as it could be with the resources available. As well, an attempt to build a systemic approach to the problem is intended to provide the reader with an analysis that could be used for further applications.

It has been seen that environmental entrepreneurs are a group that is still not defined and not distinguished from businesses getting greener. They can thus find most of the help they need but nothing that is really designed for them. This can represent barriers that are intimidating to many hesitating "ecopreneurs" while the most determined will persist to find the help they need. The paper shows that to enhance on this issue, Scotland could choose between two strategies, the third being doing nothing. Deeper analysis revealed that none of these options would be satisfying in this context because the conditions necessary for supporting environmental start-ups are not met. Ultimately this dissertation provides an understanding of the role of the support system in accompanying change. It concludes with a framework situating the support system within a strategic planning for change in society.

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There is a long way to go before environmental entrepreneurs could get proper support in Scotland. And small changes are for most of them likely to not prove significant impact and to fail to be implemented on the long run. However, Scotland offers a promising context for ecopreneurship and it could probably be developed by itself in the near future.

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