

Greening the Entrepreneurial Spirit of Mediterraneans

Training Program on Green Entrepreneurship and Eco-Design

Guide

This Guide, *Greening the Entrepreneurial Spirit of Mediterranean,s* and the Template, *Dynamic Green Business Plan*, attached as complementary document has been promoted and produced by the Regional Centre for Cleaner Production (CPRAC)

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CPRAC'S pioneer on spreading green entrepreneurship in the Mediteranean Region

Fostering development through ensuring social value in a sustainable world

Sustainable development is not only a need, but also a right. The regeneration of the business world and a fairer and more cohesive society must be fulfilled, inter alia, through the promotion of green entrepreneurship. Our economy and society as a whole have to evolve towards a mode of operation compatible with the biosphere and sustainable over the long-term. For that, eco-design methodologies must be boosted as a way to both re-think the environmental practices of businesses and maximize the environmental value they create. At the end, the goal is to foster sustainable lifestyles in general, that means, fomenting sustainable consumption and production patterns (SCP) among civil society as a seed to generate markets for green businesses, linked to social and human development.

These are the objectives that the Regional Centre for Cleaner Production (CPRAC) follows every day. CPRAC's mission concerns the promotion and facilitation of change towards a sustainable socio-economic model in the Mediterranean Action Plan countries (MAP). It endeavours to approach its aims by advocating the principles of the United Nations Environmental Programme (UNEP), the Barcelona Convention for the Protection of the Mediterranean Sea Against Pollution and the Stockholm convention on Persistent Organic Pollutants (POPs). The Stockholm Convention forms a framework, based on the precautionary principle, which seeks to guarantee the safe elimination of Persistent Organic Pollutants, which are harmful to human health and the environment, as well as reductions in their production and use. The methodology presented next shares the objective of protecting the human health and the environment from hazardous chemicals and waste and encourages an integrated approach towards sound chemicals and waste management. Emphasis is placed on the development of green businesses, incorporating environmental protection from the design stages and considering a life-cycle approach. Thus, from the very beginning entrepreneurs will be aware of the objectives pursued by sustainable development and will aim to eradicate the production, use, trade, release and storage of POPs and other chemicals along their businesses, also minimizing hazardous wastes.

Regarding green entrepreneurship, CPRAC works to create and strengthen a network of green entrepreneurs across the MAP region, in collaboration with its local partners in each of the member countries. The choice of such a project -network- takes roots on several field studies on the state of the art of green entrepreneurship that have been carried out, or will be in the coming months, in Spain as well as a number of other MAP countries such as Egypt, Italy, Tunisia, Turkey, Montenegro, Lebanon, etc. With time, all the 21 MAP countries will be covered. That in-depth sector benchmarking for green entrepreneurship to be conducted will mostly revolve around mapping the existing support systems for green entrepreneurs in each country, so as to know what is lacking and what can be improved, i.e., the opportunities for innovation in the sector, increasing awareness among society of the need of greening economy and fostering its social value creation.

Green entrepreneurs need support and suitable "habitat" to foster their activity

From the findings obtained so far, (based on several field studies conducted on the state of the art of green entrepreneurship in various MAP countries as Spain, Egypt, Italy, Tunisia, Turkey, Montenegro and Lebanon so far, with the 21 of them to come; workshops, seminars, capacity building activities etc..) it has been shown that a network of "hubs" of and for green entrepreneurs, with both physical and virtual

support, certainly represents a very effective building block to take this new breed of entrepreneurship to the next level in the Mediterranean, as a vehicle for a more sustainable future. In accordance, CPRAC is pushing for the co-creation, together with our stakeholders (local and international partners, green entrepreneurs, trainers, public administrations...), of a network where each point, or local hub, is able to offer, through a holistic view, the best-fitting package (adapted to specific local needs and conditions) of the following resources and services for local entrepreneurs:

- **Physical spaces** (entrepreneurship centres), as well as **virtual platforms** (online communities), that favours collaborative work among entrepreneurs (co-working).
- Links with **eco-communities** (citizens and civil society organizations) of potential customers and beneficiaries for the entrepreneurship projects.
- **Networking** through events and activities that bring entrepreneurs together and facilitate the development of synergies among them.
- **Exchange of good/bad practices** by sector and about green entrepreneurship in general.
- **Training, advising and follow-up** on tools and methodologies (e.g. this guide) to undertake sustainable projects in a successful manner.
- Access to **responsible sources of finance** like ethical banks, socially responsible investors and business angels, sustainable funds, etc.

Summing up, our task-on-hand is to create and strengthen a Mediterranean network of green entrepreneurs and so reduce the loss and damage of ignoring the huge need to foster sustainable consumption and production patters. On this regard, we would like to encourage all of you interested to contact us and hopefully we will embark together on this beautiful journey along our dear Mediterranean, direction the Green Land.

Foreword

Green entrepreneurship: the milestone to turn environmental and social value into business opportunity.

Banking panic, recession, financial bubbles, currency crisis, sovereign defaults... They are words steadily repeated in the media since long time ago. But economic crisis is not alone and it is always linked to social changes. Global unemployment and social inequalities has increased considerably in the last few years, swelling countries' vulnerability, especially in those developing areas without a consolidated social protection system. Moreover, our current unsustainable consumption and production patterns have lead to global environmental losses and damages.

Nonetheless, crisis means also opportunity and one of the lessons we can learn from current situation is that running economies the way we have always done, doing business as usual and consuming and producing as intensive as nowadays are not options anymore.

Resources will be ever more scarce and constrained unless we now question current models of development and choose new ones in order to safeguard our future. Sustainable consumption and production patterns (SCP) are a must-do to prevent a systemic natural resource crash that would be much worse than the crash of the financial system.

For too long, sustainability has been understood to mean only limits and restrictions. But instead, SCP permit everybody to meet their needs without generating negative environmental, social and financial impacts, that is, they guarantee not only current, but also future needs. The transition to a green economy plays an important role in reducing countries' weaknesses.

And what do we mean by green economy? Following the 2010 report¹ of the United Nations Environment Programme (UNEP), a green economy is the one that "results in improved human well-being and social equity, while significantly reducing environmental risks and ecological scarcities." Promoting the paradigm of a green, fair and inclusive economy can help accelerate the shift to more equal and prosperous society.

Mediterranean countries meet the imperative of switching the way they produce, consume and discard goods, pursuing for more efficient, better-informed and less resource-intensive consumer habits. Development cannot further mean environmental degradation and resource depletion. This pressure is characterized and affected by water scarcity, population growth and rapid urbanization in coastal areas, growing waste generation, climate change and massive tourism. In this sense, the ecological footprint of each Mediterranean country, without exception, presents an ecological deficit, which means that the environmental capital of each country is spent faster than it is renewed.

Change patterns means innovation and to innovate it is essential to boost entrepreneurship as a seed of creativity, structural changes, increasing efficiency and a mechanism to convert knowledge into growth. But today we have to go bit further and proclaim the need of green entrepreneurs as the main actors in the transition to green economies.

Green entrepreneurs, in comparison to traditional ones, seek to create a business model that is not only economically profitable, but also creates environmental and social value.

¹ <http://www.unep.org/annualreport/2010/>

The move to a sustainable business framework provides numerous and original market niches such as sustainable tourism, organic agriculture, hybrid or electric transport systems, construction with low environmental impact, renewable energy, among others, and their green jobs stemming from these new activities.

These new forms of employment and wealth come up against one significant obstacle in the Mediterranean countries. This is, with some nice exceptions, the lack of entrepreneurial culture. Nonetheless, day-by-day, awareness from citizens on the environmental and social impacts associated to consumption choices is increasing and, therefore, interest from consumers to green products and services is also higher. At the end, this increment in the number of sustainable consumers results in new green business opportunities, which promote sustainable production and generate social value. A virtuous circle!

Pursuing this objective, this guide aims to boost green entrepreneurship by highlighting the huge need of a green economy that fosters social value and mitigates the irreparable losses that unsustainable consumption and production involve. Green companies must be capable of maximising their benefits with less investment, finding renewable resources, promoting new ways of work and collaboration and being environment-friendly. Green entrepreneurship provides the means to walk the path of turning environmental and social value into business value.

What is this guide for?

If you have ideas –don't mind if you think they are not good enough now- and an entrepreneurial lifestyle, this guide aims to encourage you to turn them into feasible business, creating social and environmental value through economical sound projects. For that end, we offer you some examples and explanations and invite you to follow a rigorous methodology to create you own green business plan. Enjoy!

This guide, entitled *Greening the Entrepreneurial Spirit of Mediterraneans*, has been promoted by the Regional Centre for Cleaner Production (CPRAC) and coordinated by Francesca Culcasi. This work consists of two separate (but interrelated) documents. The first one is the guidebook itself, with the above mentioned title (from now on "the guide"). It is structured in four modules written by renowned experts in the field of green entrepreneurship and business creation, and contains two annexes: an inventory of sustainability concepts (Annex I) and a compilation of several successful green business projects of the Mediterranean region (Annex II). The second document that complements this work is a template closely linked to the second module of the guide and entitled under the same concept: *Dinamic Green Business Plan* (from now on "the template"), where you will be able to write down your own DGBP following previous theory and practical examples.

The authors of this guide, in "order of appearance" are Oriol Pascual (module 1), Jesús Iglesias (module 2), Ramon Farreny and Jordi Oliver (module 3). They all have contributed with their valuable expertise and entrepreneurial engagement to show you that many of your everyday-thoughts could become an innovative sustainable business that creates social value.

Today, sustainability strategies are characterized by a stronger focus towards the market and the consumer. This is an important shift, since until recently sustainability has been mainly about "greening" existing processes, products and services, and now it focuses on delivering value to the customer while decreasing the environmental impact. The path towards sustainable development requires a balance between the supply of green products and services and the acceptance by the market of those solutions. That is the main point of the module 1 of the guide, carried out by Oriol Pascual, and which introduces the concept of green entrepreneurship and innovation, highlighting that only reducing the environmental impact of a given product or service

is not good enough to meet the challenges that sustainable developments aims to solve. Therefore, it is necessary to move from being *less bad* to the creation of *more value* through sustainability, environmental, social and business value.

This first module outlines some of the characteristics and skills of entrepreneurs and points out that the main reason for green entrepreneurs to fail is that they focus 90% on *green* and only 10% on entrepreneurship, disbelieving that without a sound business model there is not green entrepreneurship. Pascual closes this section with a nice list of ideas and examples of sustainable businesses.

The second module, written by Jesús Iglesias, is the core of this guide and a very practical section to make you develop your own Dynamic Green Business Plan (DGBP). You will be able to follow a rigorous methodology step-by-step, with rich explanations of the most important concepts and questions and "exercises", gathered in the template that will help you to apply each step to your own project.

Module 2 invites you to think strategically (strategic action plan), apply the principles of good business (business model), pursue the stakeholders' engagement in your project (stakeholder's engagement plan) and improve continuously in your way to green business (sustainability management plan). Iglesias conceives the entrepreneurial process as a cycle comprising the following stages: the identification of a problem or need; the concrete objectives to attain (why?); the main actors linked to this mission (who?); the co-creation of a solution with the stakeholders (what?); the implementation of that remedy (how?); and laying out a work-plan to put it all into practice (when?).

Module 3, although in a third position, is not less relevant than the previous ones -quite the opposite- as it deals with the ecodesign phase, a process that determines up to 80% of all product-related environmental impacts. Ramon Farreny and Jordi Oliver are the authors in charge of this chapter that points out the difference between traditional design and ecodesign. Ecodesign focus not only on the product, but also on the product-system concept, considering environment as an additional criterion to the traditional ones (costs, quality, functionality, safety...) In addition, it places great emphasis on the consideration of all life cycle stages throughout a product and its system. That refers not only to the selection of materials, production, retail use and end-of-life management, but also the necessary infrastructures along its life cycle, the packaging used, the spare parts and accessories, etc. The module ends with a useful toolkit of ecodesign strategies that aim to inspire you with your own project.

This guide contains also a fourth module that offers practical resources and information for green entrepreneurs (hubs, programmes and organisations for the promotion of entrepreneurship, useful websites and other online resources, etc.) Last, you will find two annexes and some bibliographic references. The first annex contains an inventory of key aspects of sustainability and the second one is a compilation of successful green business cases of the Mediterranean area. In the separate template document, we encourage you to write down your own Dynamic Green Business Plan and eco-design strategies In the next section –*About this guide*– we give you some more details on how to work with all these contents and how to use this entire guidebook in order to take the most profit of it.

Get inspired and undertake new green business for the creation of social value!

About this Guide

Introduction: contents and methodology

Greening the Entrepreneurial Spirit of Mediterraneans is a guide promoted and coordinated by the Regional Centre for Cleaner Production (CP/RAC) with the aim of bringing green entrepreneurship closer to everyone, promoting concern about the pressing need of boosting sustainable consumption and production patterns.

The introduction of this handbook points out how the current situation constitutes an opportunity and a need for the promotion of green entrepreneurial businesses. Green entrepreneurs are called to have a leading role in the transition to green economies.

As already explained, contents are structured in two separate, but interrelated documents: the guide itself and the Dynamic Green Business Plan template. The guide has been divided into four different modules written by renowned experts in the field of green economy and business promotion. Oriol Pascual *breaks the ice* with the definition of green entrepreneurship and innovation in the first module. Along the second one, Jesús Iglesias develops a rigorous step-by-step methodology to transform ideas into tangible and sustainable business through a Dynamic Green Business Plan (DGBP). Ramon Farreny and Jordi Oliver highlights the importance of eco-design –a phase where up to 80% of all product-related environmental impacts are determined- and draws some strategies for ecoinnovation in module 3. Finally, you will find some practical resources and information for green entrepreneurs in the last fourth module. Two annexes -an inventory of green economy concepts and a compilation of successful green business projects of the Mediterranean area- and the corresponding bibliographic references are the remaining elements of the first document of the whole guidebook.

The DGBP template is an independent document closely linked to the guide. It gathers all the questions and practical exercises of modules 2 and 3, with the corresponding blanks to be filled in with your own DGBP.

Materials included

With this handbook we aim to offer a very useful and practical resource for everyone aiming to undertake a sustainable project. In this sense, we present two documents that contain not only deep explanation of concepts and contextualization about the essence of green economy, illustrative graphics and tables, but also clear examples, questions and exercises to help you by drawing your own project.

The guide highlights along its first three modules some important contents by colours. Orange boxes contain key ideas or summarize some important points. Green boxes make you questions for guidance, so that you can apply theory to your own project. Finally, grey boxes explain some illustrative study cases. This first document also contains two annexes. Annex 1 gives you a sustainable inventory with generic economic, social and environmental aspects to be considered for your strategic action plan, especially for the stakeholders. The second annex gathers a compilation of several successful green business cases of Mediterranean countries. Their experience will help you for sure with your own green business project!

Do not miss the DGBP template! It is a separate document itself, but closely linked with the guide. It gathers all the questions and exercises of modules 2 and 3 and it must be regarded as a notebook to write down your findings and develop your own Dynamic Green Business Plan and Ecodesign Strategies.

How to use it

This guidebook is not a reader, but an instrument to undertake your green business. In this sense, it is important that you work with it, beyond reading it, noting down your own ideas and findings and going over all contents as often as needed.

The most advisable way to proceed is, first of all, fully read the first document, *Greening the Entrepreneurial Spirit of Mediterraneans* (the guide). Besides the detailed theoretical framework of the methodology, it contains real-life examples, very appropriate for the sake of both clarification and inspiration.

Have a good look at the study cases on grey boxes and the successful business cases of annex II, reading at least one of them entirely (the most similar to your own project or helpful for you somehow).

Finally, apply the knowledge and inspiration acquired to your project, by thoroughly going over all the steps proposed on the second document, the DGBP template. At this point it is useful to have the guide in hand again, just to see how other users did undertake their project (Annex II).

Illustrative business cases

Along the guide you will find different boxes with illustrative study cases. They were included with the aim of clarifying theory and giving you some useful ideas for your own project.

The first module contains some different short cases; module 2 deals with two main examples: a “healthy grocery” called AHLF Project and an project for entrepreneurial training (Emprendae), while module 3 focus on the case of Mr. Textile, a T-Shirt provider).

In line with this, annex II is a great source of information for you, as it gathers several succesful business cases of the Mediterranean area, where you can read and learn how other green entrepreneurs undertook their projects.

We hope you find the whole guidebook useful and we heartily encourage you to transform your ideas into a feasible and sustainable business. Go for it!

Module 1: Introduction to Green Entrepreneurship and Innovation

1.1 Strategies for sustainability

Sustainable development and sustainability are relatively recent concepts. It was only in the late 1980s when we realized that there is clear connection between environmental, social, and economic development: the use and transformation of natural resources allows societies to prosper and develop economic systems. However, the limited availability of those natural resources obliges us to reconsider the strategies to follow in order to ensure a prosperous future. Although with a short lifespan, sustainability has evolved into a variety of strategies that help us understand better how to achieve the goal of a prosperous future.

The principles of sustainable development were first defined by the UN Brundtland Commission ["Our Common Future", 1987] as a form of development that does not compromise the ability of future generations to meet their own development needs. Since then, scientists, engineers, academics, business managers, and entrepreneurs have been exploring different means to achieve this goal. First, the focus was on technical and engineering solutions, especially on improving material and energy inefficiencies during production processes. The approach that embraces the different strategies of this period is known as *cleaner production*, which started by applying "end of pipe" solutions; technologies that "capture" the problem at the end of a process instead of avoiding the problem in origin. Good examples of this kind of technologies are the filters at the end of an exhaust chimney or pipeline. Later on, cleaner production became a very compensative approach with the goal of reducing or eliminating inefficiencies and pollution at the point of origin.

During the second phase, the sustainable development community moved forward and expanded the scope of action by bringing environmental thinking and strategies to product design. The reason for this is that over 80% of the environmental impact of products is defined during the design phase. This was a very relevant evolution in sustainable development strategies because it involved also consumers and the market. Today, we well know how to significantly improve the environmental performance of products. This approach is called "ecodesign", and Module 3 of this guide offers a comprehensive overview and practical recommendations for applying ecodesign, in order for you to develop products and services with a low environmental impact.

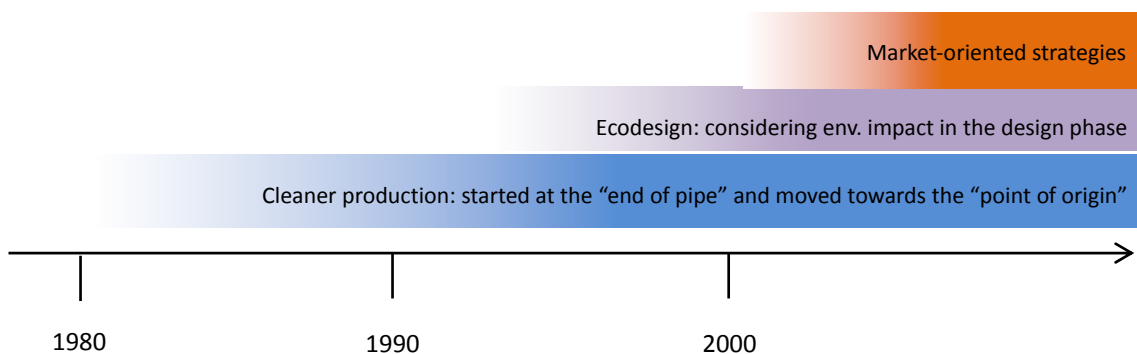


Figure 1: Sustainable development phases

Today, sustainability strategies are characterized by a stronger focus towards the market and the consumer. This is an important shift, since until recently sustainability has been mainly about "greening" existing processes, products and services, and now it

focuses on delivering value to the customer while decreasing the environmental impact. The path towards sustainable development requires a balance between the supply of green products and services and the acceptance by the market of those solutions. Ultimately, consumers are the ones who have the last word about how their money is spent: whether they spend it on products with a heavy environmental impact or on solutions that are environmentally sound. There is a direct correlation between purchasing power and environmental impact; the more purchasing power an individual possesses, the more they consume and the higher their environmental impact. Entrepreneurs have the opportunity to turn this purchasing power into positive environmental impact.

Remember that...

Strategies for sustainable development include; clean production, end of pipe technologies, ecodesign, and product-service combinations, amongst others.

It is a focus on the demand side (the market, the user, the consumer) that represents a great deal of opportunities for entrepreneurial people; what are the products and services that consumers need and demand, that also create environmental, social, and economic value?

1.2 Social, environmental and business value creation

In the previous paragraphs, we have seen how sustainable strategies aim at reducing the environmental impact of product and services. There is room for improvement: it is possible to deliver certain functionality at a reduced environmental impact (i.e. less materials, less energy, less pollution). For this, the lifecycle thinking approach is a very valuable framework which is further explored in module 3 of this guide. Lifecycle thinking takes a wholistic approach to the environmental impact of products and activities, considering raw material extraction, material processing, transportation, distribution, consumption, reuse/recycling, and disposal must all be considered when evaluating the environmental impact. This is called the life cycle of a product. The overall idea of making a holistic evaluation of a systems impact can be defined as Life Cycle Thinking².

Moreover, only reducing the environmental impact of a given product or service is not good enough to meet the challenges that sustainable development aims to solve. We need to move from being *less bad* to the creation of *more value* through sustainability; environmental, social and business value.

The process towards value creation involves innovation at different degrees (incremental, radical) and applied in different manners. But what is innovation about? Innovation is the process of developing and bringing to market new products, services, processes, and technologies that are better and more efficient than existing alternatives. Notice that we are talking about bringing solutions to the *market*. The difference between *invention* and *innovation* is exactly this: market availability. A new

² http://en.wikipedia.org/wiki/Life_Cycle_Thinking

process or product tested in a closed environment, like a laboratory or garage, remains an invention. Once it is successfully brought to the market, it becomes an innovation. Therefore an innovation is the same product, process or technology made available to consumers. As a green entrepreneur, many times your job is to take those inventions out of the laboratory, and find ways to bring them to the market.

How can you end up delivering an innovative solution to the market? There is a process, which take you from “being less bad” to creating value through innovative solutions. This process involves four stages, and although you might be tempted to directly deliver a revolutionary solution to the market, we recommend you to go step by step and learn from the process. The stages include repairing, redesigning, development of a functional innovation, and a more holistic system innovation. The first two (repairing and redesigning) might be considered as “being less bad” strategies, while the later (functional and system innovation) have a stronger focus on value creation. To illustrate this process, we will use the case of a washing machine, which is manufactured by a company, and sold to final consumers.

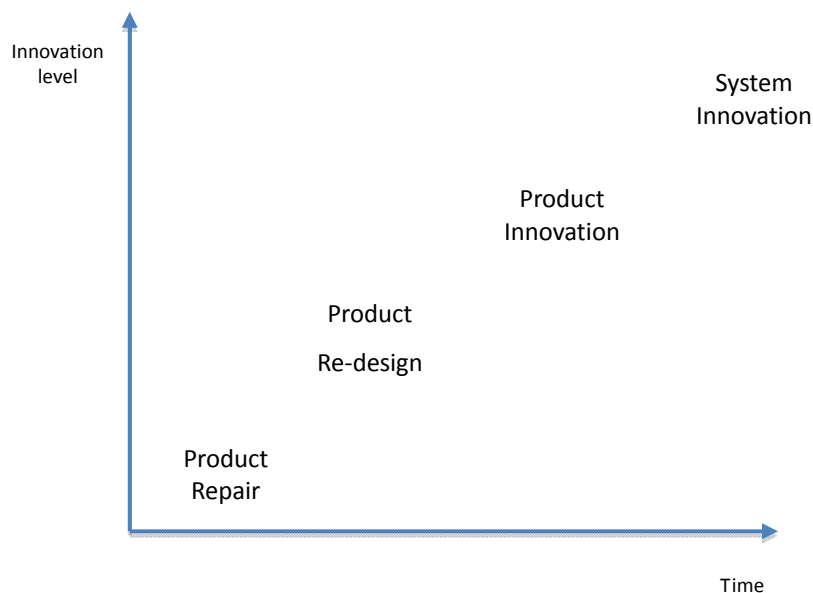


Figure 2 | stages of eco-innovation (adapted from Brezet)

The first step of this process is about repairing: improving the environmental performance of a situation, product or service by working on existing inefficiencies. Repairing involves making some easy-to-apply adjustments that result on an extraordinary improvement of the overall environmental performance. This is known as “picking the low-hanging fruit”: applying adjustments and measures that are easy, and have a high impact. In the example of the washing machine, a first step to improve its environmental performance would involve to “repair” it by finding ways to make the existing product more water and energy efficient. This might involve simply doing technical adjustments to limit the amount of water taken in, reduce the washing cycle times, or the temperature at which the clothes are cleaned. All this measures might result on an improved environmental performance of the product, without really affecting its functionality. Moreover, in this case, reduced environmental impact has a direct benefit for the user: less water and energy use means reduced utility bills. From a business perspective, the model remains pretty traditional: in order to have access to

the functionality of the product, the consumer buys a machine using traditional product sales.

The second step of this process, redesign, might require more than some adjustments to the existing solution, and it is typical that now a more comprehensive approach is taken to what ever is the target of the redesign. This phase includes taking the solution to the drawing board and looking for alternatives to existing elements, such as material application and energy sources. The final result of a redesign process is a solution that resembles the original one, although has an overall better environmental performance due to the new embedded solutions and design strategies. Following the case of the washing machine, this would mean a new model with some major design changes. Here, the level of innovation is higher compared to the previous stage, as there is a more comprehensive re-design of the solution. From a business perspective, the business model does not suffer any major changes from the previous stage.

So far, the previous steps aimed at "being less bad", the next two steps involve higher degrees of innovation and aim to create environmental and business value. Value here refers to the activities that end in higher advantage or benefit to the environment, society and the business.

The third step is functional innovation and it involves creating value by designing completely new ways to deliver functionality. As you might expect, here the level of innovation is high and typically driven by some technological development. Following our case of the washing machine, this would be a new sort of product that, for instance, could wash clothes without using water or electricity but by means of a new technology.

The last step includes the transformation of the overall system, beyond the mere product: the question is to think from a system perspective how functionality could be delivered. Aside from technological and design innovations, system innovation is characterized by a holistic rethinking of the system. Following our example of the washing machine, the question now is; how can clean clothes be delivered to consumers? As result, it might be, for example, that the traditional selling of a washing machine is replaced by a service where several users share a washing machine. This line of thinking might open up new business opportunities.

Today, we speak about creating social, environmental, and business value. When value is created for the environment (for instance, by using renewable resources, or clean processes) and for society (in the form of improved quality of life), most probably there also is a way to *capture* some of this value. If that is the case, then we have the necessary ingredients for a working business model. Module 2 of this guide offers a more detailed description of green business modeling.

In this guide, we use the term green entrepreneurship because our focus of attention is on the environmental dimension of sustainability, and we consider that social value is directly created when creating environmental value (what is good for the planet, ends up being good for us). Although there is not necessarily a direct correlation between social value and environmental value: something might do well for society and not have consequences for the environment.

Social entrepreneurship is the recognition of a social problem and the uses of entrepreneurial principles to organize, create and manage a social venture to achieve a desired social change. While a business entrepreneur typically measures performance in profit and return, a social entrepreneur also measures positive returns to

society. Social entrepreneurs are commonly associated with the voluntary and not-for-profit sectors, but this need not preclude making a profit.

Entrepreneurship provides the means to walk the path of turning environmental and social value into business value.

1.3 Co-creation: new means to create value

The way entrepreneurs, companies, governments, and other organizations identify opportunities, and develop solutions is evolving. Traditionally, organizations took a top-down approach to product and service development. This is based on the fact that organizations think they know the needs of end users. Today, organizations of all sorts are increasingly involving users and other relevant stakeholders in the design process, co-creating products and services that better serve users' needs.

Co-cocreation is about how to involve users and other stakeholders on the identification of problems, and development of innovative solutions that create social and/or environmental value while remaining economically sustainable. When using deep understanding and insight into what motivates and drives people's behavior in practice solutions for sustainability will be more effective.

Co-creation is a partnership between users, citizens, designers, business developers, private companies, non-profit organizations, and all relevant stakeholders to achieve a valued outcome that improves the quality of life of people, the natural environment, and the economic baseline. The interplay between these two such partnerships empower users to contribute more of their own resources - time, will power, expertise and effort - and have greater control over service decisions and resources.

Creating new solutions with people, not for them, can help drive innovation that creates positive impact. By focusing on users' own experiences and resources, co-creation can help identify truly valuable solutions. Entrepreneurs should embrace co-creation to deliver products and services that fit user needs.

1.4 Entrepreneurship as means for sustainable futures

Today, entrepreneurship is gaining an enormous momentum. There are several reasons for this:

- The **process** of starting a new business has been documented, tested and matured to the point that today it is "cheap" and straightforward to test if a business idea has potential, before making any major investment of time and money. Tools and methods are being developed that help entrepreneurs organize their ideas and validate hypothesis. Some of those are presented in this guide.
- **Entrepreneurship is empowering**: it allows people to be more in control of their destiny by developing their business ideas and bringing them to the market. Entrepreneurship is about self-sufficiency.
- There are **plenty of opportunities** to be green and competitive. Green entrepreneurship provides means for this.

But when we talk about entrepreneurship, what do we mean? Entrepreneurship is the act of being an entrepreneur. An entrepreneur is someone capable of identifying an opportunity and exploiting it. The goal of entrepreneurs is to create value, most of the times in the form of a new business, which we call a startup (from starting business). Moreover, entrepreneurship is an attitude and a way of doing things. One might be entrepreneurial, which refers to the fact of sharing the characteristics and skills of entrepreneurs. Some of those characteristics include:

Your turn

Do you have the aptitude required to start a company? If you feel comfortable with most of the characteristics presented here, then go for it!

- **Passion**: it is passion that gives the energy necessary to start and keep going on daily basis to entrepreneurs. It is your passion for your idea and your dreams what fuels the entrepreneurial process. Good news are that passion is contagious: be passionate and people around you will join you;
- **Resilience**: it refers to the ability to cope with adversity and stress. Entrepreneurs turn difficulties into learning that feeds back to the entrepreneurial process;
- **Risk taking**: the difference between having an idea and turning it into reality is action. This implies certain amount of risk taking since there is a high degree of uncertainty in starting a business: will it work? Do people need my product/service? What if I cannot make it? Good entrepreneurs do not get paralyzed by risk;
- **Adaptability**: starting up a company requires a high degree of adaptability. Especially in early stages, one has to realize that there's a difference between how you think the process will be and how the process actually is. At this point, as entrepreneur, you are on a search for a right customer segment, a working business model, and the most appropriate partners. To find all those, you need to be ready to adapt and accept unforeseen scenarios.

Until recently, the general belief was to consider startups as small versions of existing and established business. As result, the tools and methods used to develop new companies have been the same as for established businesses. Today, we know that a

startup is not a small version of an established company, and that the development of a new business requires a different approach.

In an established business, more or less everything is known: who the customers are, how the value-chain looks like, what are the revenue streams, pricing strategies, etc. There is little room for uncertainty and exploration. On the other hand, within a startup there is a high degree of uncertainty regarding for whom are you creating value, who your partners might be, or how much should you charge for your solution.

Remember that..

A Startup is not a “small business”, but:

- *A human institution designed to deliver a new product or service under conditions of extreme uncertainty (Eric Ries, The Lean Startup).*
- *An organization formed to search for a repeatable and scalable business model (Steve Blank, The Startup Owners Manual).*

In this guide we refer to startups as the result of developing a new business. Moreover, one might find a difference between the concepts of a “startup” and a “small business”. The difference is on scalability. A startup has a business model and it is scalable, while a small business has a business model, but it is not scalable. Scalability refers to the ability to significantly grow and accept demand without affecting the cost structure. Do you need to have a scalable

business idea? It all depends of your level of ambition: if you aim to create an impact beyond your closest circle, then you should look how to make your idea scalable. If you aim to mainly find a solution for those nearby you, then scalability is not an issue.

You, as a green entrepreneur, will ask: how can I create value for the environment and the user, and build a scalable business model? This requires defining the reasons why you are starting up, identifying a market, finding a repeatable business model, and be ready to iterate (Figure 3). The second module of this guide provides a comprehensive review of the process of undertaking a green startup.

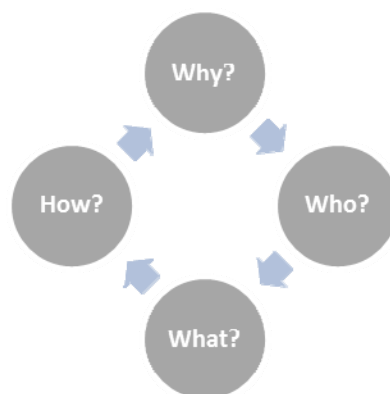


Figure 3: the search for a repeatable business model.

Notice how entrepreneurship is represented here as a circular process that once has ended, starts again (Figure 3. See module 3 for further details). This might be a surprise for many, since we are used to think in linear processes. Anyhow, you should be aware that entrepreneurship is not a straightforward process, but a constant search and refinement. Be ready to constantly adapt your beliefs and original idea as you get

new inputs, stay sensitive to noticing things that you did not expect, and you will succeed.

Green entrepreneurship

Traditionally, environmentalists focused their attention on large, established corporations: "They have created all the problems, and they have to solve them". Large companies already do a lot to reduce their ecological footprint. Though the reality is also that large organizations do not have the flexibility, neither the culture, to develop innovative sustainable solutions.

It has been just recently that we are aware of the relationship between some of the human activities and their implications for the planet. It is only recently, that all the pieces of the puzzle start to come together and we start developing business that are environment-friendly from the very first step.

We cannot expect that someone else will solve the problems that affect us all. This is why green entrepreneurship is so important today: it gives the power to people to make things happen rather than wait for others to do it for us.

Green entrepreneurship is becoming a major movement all over the world. There is a legion of passionate individuals developing innovative products, services and business models aiming to solve environmental and social issues. It is a generation driven to create an impact in society and leave a heritage that improve our current environmental and social conditions. Chances are that if you are reading this, you are one of them.

Remember that...

A green business is still a business after all and should be regarded as such. The main mistake of green entrepreneurs that fail is that they focus 90% on "green" and only 10% on entrepreneurship. Without a sound business model, there's not green entrepreneurship.

That is why the future of sustainability is in the hands of passionate individuals driven to create environmental, social, and economic value. Those are the ones that are creating the innovative technologies and business models of tomorrow. But let's be clear: sustainable entrepreneurship is about creating businesses with a working business model that generates revenues. Non-profit models are a great alternative when no business model can be developed, and the issue is such that some sort of action needs to be taken. Experience shows that the main reason for green entrepreneurs to fail is that they focus 90% on "green" and only 10% on entrepreneurship. Without a sound business model with a special focus on creating environmental value, there's not green entrepreneurship. With this guide we want to help you in both.

Remember that...

Green entrepreneurship is the process of searching, finding and developing business solutions for environmental and social issues.

Today, being an entrepreneur is no longer a choice or a lifestyle, it is increasingly becoming a set of skills that everyone has to be aware of. The economic crisis that started in 2008 has shown that nothing is safe and secured; opportunities are not

handed out but rather they have to be created by everyone for himself or herself. As a result, it is more important than ever to develop the skills that help you detect opportunities, act on those opportunities, and adapt fast to the changing environment.

The environmental issues are a great area to find and act on new opportunities. Next section provides some areas and opportunities to be entrepreneurial and solve some environmental issues.

1.5 Opportunities for green business development

It is recognized that good business opportunities are timely, attractive, long-lived and are attached to a product or service that creates value to the user. In the case of sustainable entrepreneurship, opportunities are also value-driven, that is, aim to create environmental and social value. Products that represent an opportunity are efficient, empowering, and non-toxic.

- **Efficient:** those products that require less resources than existing alternatives to deliver a basic or enhanced functionality. This category includes consumer electronics that are more energy efficient or mobility solutions that are fuel-efficient. Those opportunities create value both for the environment (reduced consumption of resources) as well as for the user (reduced cost of ownership).
- **Empowering:** functional products that allow the user to be productive and “make things”. Think of power tools for instance; they allow people to build things. Now, the term *empowering* can be considered also in a broader manner. A clean and durable light is an empowering tool for someone that has a business in a village where there is no energy grid, and thereby enables the business to be run also when the sun has set. Empowering products might have a larger social impact, rather than environmental.
- **Non-toxic:** finding alternatives to existing products that require the use of certain toxicity compounds to deliver functionality is a good way to create environmental and social value. The opportunity here is to go for non-polluting or non-toxic products, as a first step before applying other strategies. Examples of this include cleaning products, batteries, or electronic components. The *cradle to cradle* framework proposes to tackle this by closing cycles (technological & biological) and using waste as food.

Services that create environmental and social value may involve the provision of basic needs, empowerment, convenience, and efficient use of idle functionality.

Your turn

Within which of those categories can your business idea be found? Is it about making a process more efficient? Or maybe empowering a certain group?

- **Provision of basic needs:** this includes access to clean water, food, clean and renewable energy, health services and education. The impact that those services might create is clear. The challenge here is to find a business model that supports a long provision of those. A good opportunity is to turn users of those services into merchants or micro-entrepreneurs.
- **Empowerment:** empowering services that allow people to further develop at a personal and professional level is usually a good basis for entrepreneurial opportunities, because they are very valuable for the end user. Empowering services might involve easier or more efficient connectivity with others. Think of

communication services, or mobility. Module 2 covers these issues under the "stakeholder engagement" section.

- **Convenience:** a good range of services are based on the idea of offering convenience, making life easier by helping save time and money or by making certain experiences more joyful. Some services linked to convenience include repair services, cleaning or entertainment. The advantage of this sort of solutions refers to shared resources, which turns into more efficient use.
- **Efficient use of idle functionality:** a new range of service-based opportunities is rising within what has been coined as "collaborative consumption". The idea is that for a variety of products, most of their potential functionality is idle, un-used, which leads to a waste of resources. Think of a car that is only used during weekends or that power-tool that lay on the shelf. Thanks to the connectivity that the Internet offers, new services are being born connecting users with idle functionality. Examples of this include peer-to-peer car rental, or product swapping.

Your turn

Almost every single business and industry is suitable to go through the green entrepreneurship filter. What other opportunities do you foresee?

Next, we present a selection of industries and sectors that offer opportunities for green entrepreneurship.

A. Tourism

Tourism is a practice with a relatively high environmental impact: from the modes of transport to reach a destination, to the environmental impact generated by hotel industry (i.e. water, energy, consumption), and the potential social impact to a local community and culture (especially in areas of high sensitivity).

Sustainable or responsible tourism refers to tourism practices that aim to reduce the environmental and social impact of tourist-related activities. This practice aims to:

- Minimize negative economic, environmental, and social impacts.
- Generate greater economic benefits for the local people and enhance the well-being of the host communities, improve working conditions and access to the industry.
- Make positive contributions to the conservation of natural and cultural heritage, to the maintenance of the world's diversity.
- Provide more enjoyable experiences for tourists through more meaningful connections with the local people, and a greater understanding of local cultural, social and environmental issues.

Some opportunities that you, as an entrepreneur, can explore are:

- Provide products and services to hotels and resorts and help them to reduce water and energy consumption,
- Create a brand of local-traditional products (food, crafts, etc.)
- Organize guided tours to tourist that highlight the intrinsic culture and traditions of the region.

Offer a selection of touristic services (including lodging, catering, transportation, etc.) that make up an environment-friendly touristic package.

B. Agriculture

Agriculture is one of the oldest human practices, and over time it has evolved and maximized productivity with the use of innovative techniques and technologies. In some cases, the use of such technologies and techniques has resulted in the jeopardizing of product quality and depletion of natural resources (i.e. soil richness, water pollution). Sustainable agriculture is characterized by:

- Conservation and preservation: what is taken out of the environment is put back in, so land and resources such as water, soil and air can be replenished and are available to future generations. The waste from sustainable farming stays within the farm's ecosystem. Additionally, sustainable agriculture seeks to minimize transportation costs and fossil fuel use, and it is as locally-based as possible.
- Biodiversity: farms raise different types of plants and animals, which are rotated around the fields to enrich the soil and help prevent pest outbreaks. When no chemical pesticides are used, we talk about organic agriculture.
- Animal welfare: animals are treated with respect, and are well cared for and are fed a natural diet appropriate for their species.

Some opportunities that you, as an entrepreneur, can explore are:

- For a set price, customers receive a box of organically and locally produced products (i.e. vegetables, cheese, meat) on a regular basis at home.
- Create efficient local agricultural ecosystems, in which waste flows (either internal or external) are reused as raw materials (i.e. manure from a pig farm is used to fertilize crops, and then crops are useful to feed the farm, or domestic organic waste is used after composting for agricultural purposes).

C. Mobility

Transport systems have a significant impact on the environment, accounting for between 20% and 25% of world energy consumption and carbon dioxide emissions. Greenhouse gas emissions from transport are increasing at a faster rate than any other energy-using sector. Sustainable mobility or sustainable transport aims at reducing this impact by means of alternative transportation systems or by developing new technologies that dramatically reduce such impact.

One might differentiate between private and public transport systems.

High-impacting transportation includes: airplanes, combustion engine cars, trucks, and boats. In those cases, the aim is to find alternative technologies to reduce emissions, fuel consumption and overall impact of the transport system.

Low-impact transportation includes: fuel-efficient, hybrid or electric vehicles, bicycles, and public transport.

Just recently, new forms of transport systems have arisen (which provide great opportunities for entrepreneurial activities). Amongst those, we might find car sharing and a variety of options within this category (i.e. peer to peer car sharing).

Some opportunities that you, as an entrepreneur, can explore are:

- Development of techniques that provides transportation at low environmental impact: new kind of bike, or new kind of engine/technology.
- Provide shared or public transportation services in substitution of private transportation.
- Connect people with private transportation, like a car, with people without and let them share the ride or the vehicle.

Case study

Three Wheels United

In large cities in Asia and Africa millions of auto-rickshaws (tuktuks) offer their taxi-services. The vehicles are the main source of income for millions of people. Those three-wheelers also cause severe air-pollution and produce large amounts of CO₂. In 2007, Enviu decided to start an international design competition (Hybrid Auto rickshaw Battle) to create solutions for this issue. Students of seven different technical universities in The Netherlands and India were challenged to design the most efficient, easy to implement and affordable upgrade kit for existing auto rickshaws. By means of these upgrade kits, existing rickshaws would become both cleaner and more fuel-efficient. Hereby we can significantly reduce the negative environmental impact and increase the income potential for the rickshaw drivers.

Upon finishing the competition part, Enviu has partnered with Indian entrepreneur Ramesh Prabhu to develop a start-up company in India - Three Wheels United. The goal of this company is to create social and environmental impact in the auto rickshaw driver community, while increasing their financial power to make the changes to achieve this. TWU has therefore developed a business model around three pillars: financial services, advertising and clean technology. By offering fair loans and advertising income to rickshaw drivers, TWU aims to create better and more sustainable income for the drivers. The installing of clean technology will further increase the income potential and also decrease the environmental footprint of the rickshaw ecosystem.

D. Construction

Construction and housing offer a great potential for reduction of environmental impact and improved sustainability. Sustainable construction refers to making an efficient use of resources during the entire lifecycle of a building: design, construction, use, and demolition. In this regard, sustainable construction aims at:

- Efficiently using energy, water and other resources.
- Reducing waste, pollution and environmental degradation.

Some opportunities that you, as an entrepreneur, can explore are:

- Provide advice to architects and engineers on materials and construction techniques that reduce environmental impact.
- Provide a service that includes an energy audit for housing and offices and identify opportunities to reduce the energy bill. Then, complement with service and products to reduce consumption.
- Installation and maintenance of renewable energy systems for housing: i.e. photovoltaic, solar water heating, wind power...
- Recover construction material from demolition sites.

E. Energy

Energy is an area with many possibilities for developing solutions that tackle environmental issues and with a business potential. The energy challenge is manifold, including generation, distribution, storage and energy use. Sustainable energy is one that originates on renewable sources, like wind, solar, tides or geothermal. Moreover, sustainable energy sources do not produce polluting emissions and might entitle a very limited (if any) toxicity.

Renewable energy generation at local scale is a sector with high potential. As well as energy solutions for specific activities like lighting and cooking.

Case study

Evening Breeze

Talking about sustainability in the hospitality industry means efficiency in the use of resources. On a trip to Aruba, two Dutch industrial designers realized that the main environmental impact of hotels and resorts is energy consumption from the air conditioning systems. They thought: would it be possible to provide the same comfort to guests, meanwhile reducing energy consumption?

A close study of the uses and behavior of the hotel clients showed that for them it was important to be cool at night, while sleeping. This turned into a eureka-moment: what about if instead of cooling the entire room at night, we only cool the area where guest sleep?

As result, Evening Breeze developed a bed with an incorporated air conditioning system that only cools the sleeping area, saving up to 70% of room's energy consumption (which in turn has a direct effect on energy bill savings). In this process, has been key the development of an innovative silent air conditioning system.

Today, Evening Breeze has expanded their catalogue and now also includes a system that can be adapted to any bed.

Some opportunities that you, as an entrepreneur, can explore are:

- Development of a community owned renewable energy company.
- Installation and maintenance of domestic renewable energy systems: i.e. photovoltaic, solar water heating, wind power...
- Energy management services aimed at reducing energy costs by means of different services, and being rewarded with part of the savings.

F. Services

Traditionally, sustainability has been related to production processes and product design. It is on the last years that services are gaining momentum as an interesting model for dematerialization and efficient use of resources.

Actually, the offering of services usually entitles the use of certain product that contributes to the delivery of a given functionality. This is the reason why typically services are also called product-service combinations. These product-service combinations can be classified as:

- **Product-Oriented:** where ownership of the tangible product is transferred to the consumer, but additional services, such as maintenance contracts, are provided.
- **Use-Oriented:** where ownership of the tangible product is retained by the service provider, who sells the functions of the product through modified distribution and payment systems, such as sharing, pooling, and leasing.
- **Result-Oriented:** where products are replaced by services, such as, for example, voicemail replacing answering machines.

Rachel Botsman, who coined the term "collaborative consumption", classifies service-based solutions into product-service systems, redistribution markets, and collaborative lifestyles.

- **Product-service systems:** pay for the benefit of using a product without needing to own the product outright. Disrupting traditional industries based on models of individual private ownership.
- **Redistribution markets:** redistribute used or pre-owned goods from where they are not needed to somewhere or someone where they are.
- **Collaborative lifestyles:** it's not just physical goods that can be shared, swapped, and bartered. People with similar interests are banding together to share and exchange fewer tangible assets such as time, space, skills, and money.

Some opportunities that you, as an entrepreneur, can explore are:

- Rental service of anything! Think of the products and devices that you have at home take space and that are rarely used. Focus on one vertical, for instance power-tools, art, bikes.
- Peer to peer sharing of products. Think of cars, apartments, tools or textbooks.

G. Fashion

Sustainability and green entrepreneurship is spreading to industries like fashion and textiles. Environmental impacts of the textile and fashion industry can be found on the nature of the materials and fibers, energy and water consumption during production and maintenance, as well as on the use of certain dye that might be toxic and lead to pollution.

In addition, fashion is now considered a fast consumer good, due to the high rotation of products in store and cost reduction. As a result, the environmental impacts of this industry increased in the last decades.

Sustainable fashion refers to the practice of designing and bringing fashion articles to the market that take into account their potential environmental effects, and aim to reduce them. Sustainable fashion includes, although not exclusively.

- Use of natural, organic and/or recycled fibers.
- Reduction of the environmental impact through the value-chain (i.e. water consumption).
- Use of natural and non-toxic dye techniques.
- Local production and consumption.
- Fair retribution and working conditions.
- Recommendations for final users on appropriate maintenance.

Large fashion brands are already introducing sustainability principles on their design and production techniques.

Case study

Ecoalf by Fun&Basics

Ecoalf is a fashion company with a strong focus in sustainability. Founded in 2007, the company manufactures products such as clothing, handbags, luggage and accessories from recycled materials that include PET (plastic) bottles, fishnets, and rubber tires, amongst other materials.

When thinking of recycled materials, one might come with images of low quality and poor design, but this is exactly what Ecoalf is aiming at: create fashion products made of recycled materials based on four pillars: technological innovation, sustainability, quality and design.

<http://www.ecoalf.com>

Some opportunities that you, as an entrepreneur, can explore are:

- Develop textiles that can be cleaned with cold water and without or little amount of detergents.
- Create a fashion brand based on sustainable fashion principles.
- Provide services to fashion companies to green their industry.
- Provide support to consumers to help them identify best practices in the industry.

This first module aimed to point out the key points of green entrepreneurship and sustainable strategies, giving you some examples of green opportunities. With this information you are ready to go further and develop your own Dynamic Green Business Plan (module 2) and ecodesign strategies (module 3) in the following pages.

Case study

Get inspired!

Browse the compilation of green entrepreneurship cases from the Mediterranean region gathered at the end of this guide (annex II).

Module 2. The Dynamic Green Business Plan: a methodology to undertake green projects

So far, we have seen how the current social, environmental and economic global context demands for a new approach to the way we do business, one with sustainability and social responsibility at its heart (means) and mind (end). Building on these drivers, in module 1 we have laid down the foundations for a new breed of entrepreneurship that embodies this new philosophy, representing an alternative route to business with potential to regenerate our economy and reconnect it with the natural and social dimensions.

It is within this framework that we now proceed onto grounding these concepts in some concrete tools that allow green entrepreneurs to systematically and analytically transform their ideas into tangible and dynamic business realities that are able to generate positive social and environmental impact. The **Dynamic Green Business Plan (DGBP)** constitutes in this manner an innovative approach to a classical business plan: a step-by-step hands-on methodology that can directly be applied to any project no matter its stage, whether it is still closer to a conceptual idea (entrepreneurship) or to an established company or organization (innovation). On top of that, the DGBP integrates the sustainability perspective, built-in from the very core, thus promoting the creation or redesign of projects that inherently seek to contribute to a more sustainable society.

As of the tools it encompasses, we have, in this order, the mission and objectives behind the idea (why we embark in such adventure), the actors that play a part (who), the strategic action lines that materialize the objectives (what), the services/products that rend the action lines viable and the route and resources to deliver them (how), and finally the road-map to get there (when).

At this point, it is important to emphasize that, despite the apparent “density” and complexity of steps and tools encountered throughout this methodology, what matters in the end are the concepts behind the façade and the change of mindset they induce on the entrepreneur. In other words, the true goal of this guide is nothing but: on the one side, to encourage entrepreneurs to pursue the creation of social and environmental value through economically sound projects, and on the other, to push them to be rigorous and systematic in their analysis. Concretely speaking, the DGBP permits the entrepreneur to:

- **Think strategically** (Strategic Action Plan) all throughout the entrepreneurial process of converting an idea into an effective project by, for instance:
 - Setting strategic objectives and direction and focus your efforts accordingly.
 - Designating realistic targets.
 - Identifying potential pitfalls before they happen.
- **Apply the principles of good business** (Business Model) to the design of a business model that materializes and rends the strategic action lines feasible and viable. Those principles take roots on four major pillars: democracy, responsibility, sustainability and humanity and consequently yield business models sustained upon collaboration over distributed networks, sharing of resources and risks, and socially and environmentally responsible goals and behaviors. The application of those principles allow businesses to, among other areas of influence:

- Manage and improve their impact on their main stakeholders.
- Understand and care for their assets and resources: human, intangible, social and economic-financial.
- **Foment the stakeholders' engagement in the project** (Stakeholder Engagement Plan) by facilitating proper communication flows among them, marketing the project's impact and implementing engagement initiatives based on incentives to increasing participation. Presenting the project to responsible financial entities for fund-raising purposes is a good illustrative example on the importance of communication as a tool that maximizes your chances of achieving the objectives set.
- **Track, manage, control and continuously improve** (Sustainability Management Plan) the functioning of the project, in order to maximize and harmonize the value it generates along the three dimensions of sustainability: environmental, social and economic, via the proper set of indicators. As a way to foster and spread this value-seeking vision as well as the "thinking global, acting local" philosophy, the **Economy of Value(s)** (section 2.5.3) encourages to locally measure, in directly "monetizable" economic terms, the actual positive social and environmental value the project creates.

Remember that...

The tools of your DGBP are, among others, the mission and objectives behind the idea (why?), the actors that play a part in our project (who?), the strategic action lines that materialize our objectives (what?), the services/products that rend the action lines viable and the route and resources to deliver them (how?), and finally the road-map to get there (when?).

2.1 The process of Undertaking

Undertaking an idea is neither a single task (e.g., the administrative registration of the company) nor a linear set of them. It is indeed a dynamic and cyclical approach that addresses the need to continuously review the project, through the application of a well-structured set of tools, in constant pursuit of excellence towards its mission and adaptation to the ever-changing realities it deals with. Contrary to common thought then, a good business plan is not a written statement created once-for-all before undertaking a project, but rather a dynamic tool that accompanies the entrepreneur all throughout the entrepreneurial and managerial processes, namely design, planning, development, management and improvement/innovation.

Remember that...

It is quintessential to be open-minded with regards to one's idea or project, always allow new possibilities to come into play and comparatively assess them in search of the most effective alternatives towards the attainment of the mission/objectives set.

2.1.1 Cyclical vision: Flow Diagram

Getting into details, the entrepreneurial cycle comprises the following stages:

1. Identifying a **problem or a need** (personal, social or environmental issues).
2. **Why?** Defining the mission to tackle the problem/need observed and setting concrete objectives to attain it (**Mission & Objectives**).
3. **Who?** Identifying the main actors that are linked (influence or are influenced) to the mission/objectives (**The Stakeholders**).
4. **What?** Co-creating the solution with the stakeholders (**Strategic Action Plan**)
5. **How?** The implementation process.
 1. Ecodesigning the solution (**Ecodesign Methodology**)
 2. Designing the business model (**Business Model**)
 3. Managing the project (**Sustainability Management Plan**)
 4. Communicating and engaging the actors (**Stakeholder Engagement Plan**)
 5. Determining the best way to operate the business on a daily basis (**Operational procedures**)
 6. Selecting the fiscal and legal forms that best fit the project designed (**Fiscal & legal forms**)
6. **When?** Laying out a work-plan to put it all into practice (**Road-map**)

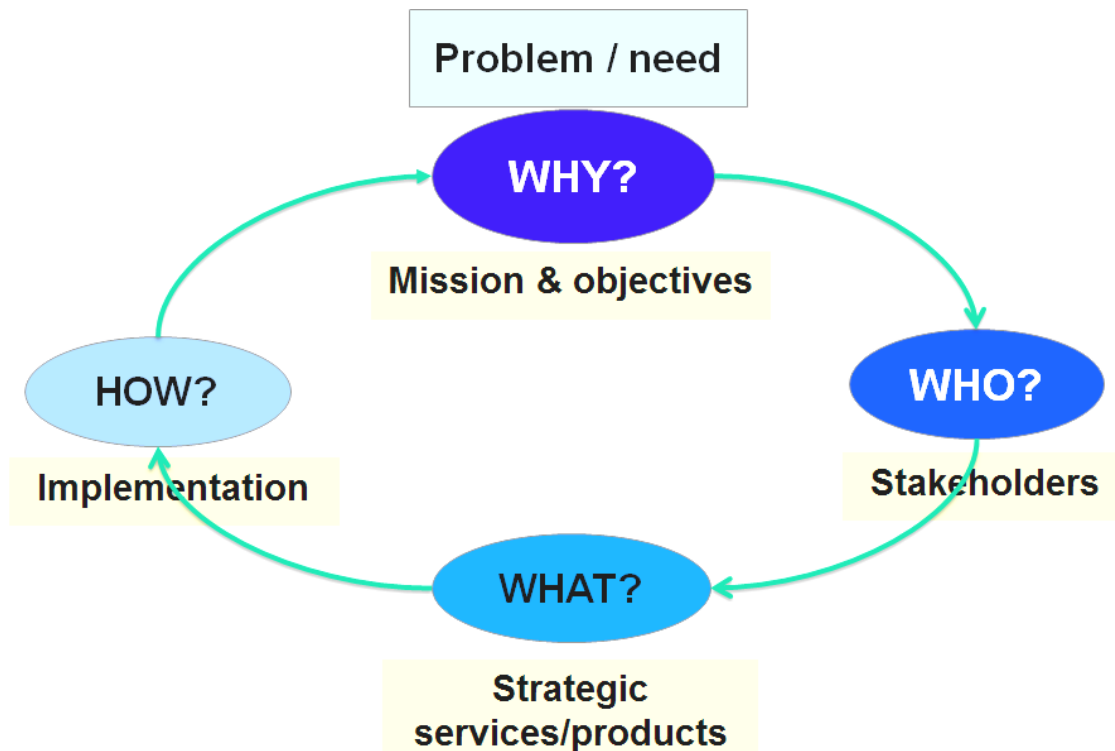


Figure 2-1. The characteristic flow diagram of an entrepreneurial process

2.1.2 Assumptions, validation & experiments

All along the process of undertaking an idea, you face decision-making situations through which you set goals and establish pathways to reach them. Those defining moments determine, to a great extent, the outcome of your projects. Unchecked assumptions can lead to wrong decisions and ultimately to sinking businesses. Accordingly, you need to be as strategic as possible and base your educated choices on reliable and relevant information.

Intuition, a raw talent, has led many great adventurers to successful ventures across history but, when unsupported by hard work, also to major disasters. No matter how much you think you know about something, you always have to perform a reality, check and find sufficient data that supports or declines your view. In case no related/significant studies have been carried out on the matter, you will have to come up with your own: conduct research, make surveys and consultations, etc. On this latter, always bear in mind the importance of the “relevance” parameter: in order for the data to be relevant for the task at hand, the proper methodology for the particular audience has to be applied, inquiries have to be as objective as possible, open questions have to be included, the size of the sample (population surveyed) needs to be statistically significant, and so forth.

Remember that...

Always validate your hypotheses with sufficient real data (market research, consultations, etc.)

When making your own surveys, not only contents matter, the surveying methodology as well as the framing of the questions are equally key to obtain valid information.

2.2 WHY? Understanding the reasons (Mission & Objectives)

Reality says the nature of entrepreneurs is such that we tend to go straight for the answer before we even know the question well. The main mistake is that of following an ineffective entrepreneurship process: focusing on the solution (what), before determining, first of all, clearly the problem to be solved, the need to deal

Your turn

Verify whether the problem/need that inspired your idea/project is really so. Does your target group really have that need or problem or you just assumed so without sufficient support data? (Section 2.1.1 - DGBP template)

with or the reasons behind the idea (why).

A well-set mission and objectives is the first element you should take into account. The rest is all about using your resources wisely, but first fix a destination to your journey or else you will wander and lose focus.

All in all, what we are suggesting here is that although, at this point, you most likely think you have a clear idea in your mind of what you want to do, what actually matters is the mission (why) that drives it. So, do not be afraid about letting go of your initial idea for the greater purpose of attaining your goals.

This effort usually implies a backwards analysis of going from the "idea" conception to the actual goal of the entrepreneurial initiative. That goal -the mission- will then translate into concrete objectives, linked to which are actors that play a role in your movie: the stakeholders. Actors with particular creative power indeed, as they will be co-creating the project with you, but that is the business of the next section ("the who").

Remember that...

Your personal mission in life is what pushes you to get up every morning and go for your dreams. If you are able to align it with your professional one, imagine the passion and sense of realization that will result (a major enabler of well-being and happiness). So, let your mission be your guiding star in your explorations.

To maximize your chances of achieving your mission/objectives, prepare yourself for the likely-to-be heart-breaking process of re-thinking your idea/project. Open your mind and let it flow!

2.2.1 The need/problem

That is without doubt the very first stage of your green business: what is the problem or need that you would like to solve through your sustainable business?

A key self-defining attitude of entrepreneurs is your investigating and questioning nature. We like to observe the world around us and pose ourselves questions on how to improve things. This major asset at your disposal serves well for the very first task you must accomplish: the detection of a problem that requires solving or a need that demands tackling, in the world around you. That is and must be the foundations for any responsible project or business you may want to undertake, otherwise you will not be contributing to bettering your common home but to the artificial generation of nonexistent needs. Remember the purpose of this guide is to foster the development of economically sound sustainable enterprises as social and environmental value creation vehicles *en route* to a more sustainable socio-economic model of civilization.

Let's therefore get started by observing reality, especially at a local level ("think global, act local"), and identify problems, needs or areas in general where you can act upon, seeking a betterment along the proper set of sustainability indicators. That will constitute the bottom line of your project, the basis for its mission and objectives. In case, as said, you already have an entrepreneurial idea, you must at this point make sure it does tackle a real need/problem where you have some leverage. In case it does not, time has come to go back to the observing phase. Try having a look to previously conducted research on the same matters, paying attention to details, asking everybody along the way, and looking at the world through a different set of glasses this time around. It usually helps us see what had gone unnoticed in the first place. But let's just do not end there, and constantly apply this principle of continual observation and questioning to yourself and your projects as well, in an humbling exercise of self-doubting in pursuit of self-improvement.

For examples of typical problems/needs identified in various green sectors, that open up opportunities for entrepreneurship, check module 1 –section 4 ("Opportunities for green business development").

Remember that...

A good resource containing baseline studies of present and future sustainability trends among the young population is the Global Survey of Sustainable Lifestyles [Global Survey of Sustainable Lifestyles, 2012], a UNEP [UNEP, 2012] surveying methodology around themes such as food, housing, mobility or communications that has already been applied to a number of countries (check the website for detailed information).

Your turn

Before moving any further, make sure you go over the following questions (Section 1.1 DGBP template) in earnest and answers fall on the positive side of the spectrum:

Does your idea tackle a real problem/need? What evidence have you collected that demonstrates the existence of that problem/need? What social, economic and environmental factors push your idea to exist? Will it contribute to a greener, fairer & better planet? How?

2.2.2 The Principles of Good Business

Once you have understood the need/problem you want to tackle, it is all matter of setting the direction you want your business to follow in pursuit of that goal. For so doing, you need to define the principles it is going to be founded upon. In your case, as (at least theoretically) you want to pursue the common good, you need to develop businesses or projects in general that inherently integrate sustainability, responsibility, democracy and humanity into their very core. Those four constitute what we call the Principles of Good Business, the DNA of business models grounded on collaboration over distributed networks, sharing of resources and risks, democratic participation, and socially and environmentally responsible goals and behaviors.

Remember that...

The Principles of Good Business are the backbone of the so-called Economy of Value(s), an economic theory (see section 2.5.3) aimed at fostering sustainable lifestyles through a new monetary metrics that measures the real environmental and social value we create. As the wordplay “value(s)” suggests, the key to promoting true “value” creation is to take roots on fundamental “values” (democracy, responsibility...) that indeed make up the elements of our very definition of “value”.

Around those principles or values we have built an open list of business strategies over which we encourage further contributions:

A) Sustainability

Sustainability is both a goal and a value in itself. It is the lighthouse that guides your sailings but also the engine that powers them. As such, through your green business you must assist others towards the following aspirations while pursuing them to assist you as well:

As it has been unanimously recognized at the last Earth Summit -Rio+20- [Rio+20, 2012], the only way to achieve global sustainability as a civilization is by changing the way we live individually, each and every one of us. That means **mainstreaming sustainable lifestyles**. Awareness raising on the benefits of sustainability to individual and societal wellbeing can be the first stone of the road. It will create a demand for sustainable solutions, driving green businesses and paving the way for sustainable lifestyles to actually become the norm rather than the “alternative”. Overall awareness will therefore peak and the loop heading to a better world will be closed. Education, communication and marketing, green entrepreneurship and role models are all valuable tools at your disposal to effectively act upon the different stages of the process (see the figure below).

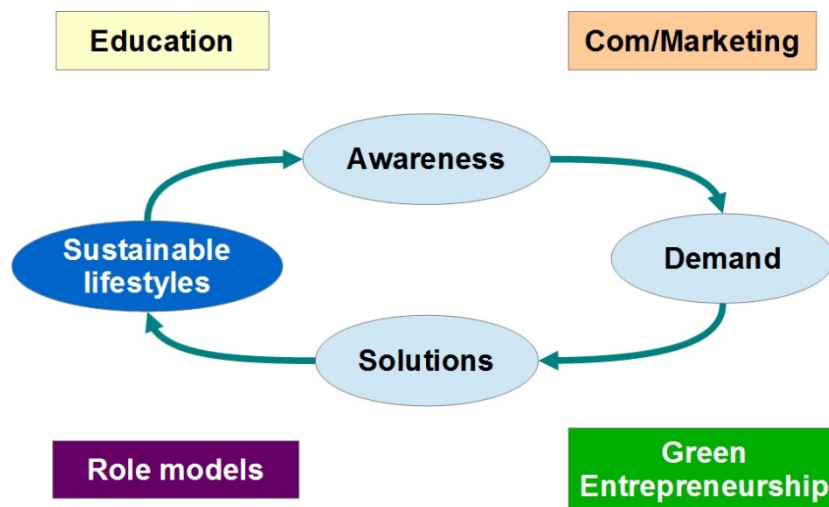


Figure 2-2. The Cyclical Road to Sustainability. Cyclical diagram depicting an iterative process aimed at mainstreaming sustainable lifestyles.

Sustainable lifestyles, by definition, take roots on production/consumption patterns such as:

Responsible consumption:

Consumption behaviors like buying fair trade products, on-season and local varieties, etc., bear an enormous positive impact on the local community in particular, in terms of employment generated, preservation of biodiversity and local ecosystems, promotion of traditional culture, reinforcement of personal bonds, etc. But your task does not end just there -responsible consumer-, you need to take an active role -become a "prosumer"- and preach to others about the wonders of such habits. In short, simple and dematerialized lives, focused on deep human relations are the path to a better, greener planet and maybe even to our own happiness as we shall see.

Remember that...

Sometimes, confused by overwhelming publicity, we tend to value more distant "promised lands" (e.g. remote holiday resorts) than our own surroundings. To your surprise, your local region can be host to incredible marvels, fantastic people (including your family and long-time friends), and wonderful opportunities to enjoy fully, without really needing to travel half the world (think about the environmental impact) or spend tons of money.

Ecological production:

Small scale, organic and social farms (e.g. cooperatives [UN International Year of Cooperatives, 2012]) are not only far more productive than extensive, oil-soaked agriculture but also employ more people, yield better food (way tastier!!), conserve local species, etc. By avoiding the use of pesticides, GMOs (Genetically Modified Organisms) and other artificial products, we are eliminating major threats to nature as well as to our own health.

Case study

Ecological farms

Ecological farms located within the perimetral surroundings of cities, or even inside them -urban farms-, and connected to consumers (or “prosumers” if they actively preach their vision) via local distribution networks enact a wonderful channel for citizens to access local, ecological products all year long. Besides, they naturally foment the development of communities where members share lifestyles and spend time together experiencing their passions. They even help at-risk social groups get integrated back into society by equal employment opportunities and the simple feeling of belonging to a community and of being part of a shared project. Examples of initiatives of this sort can be found all over the world [Hortus Aprodiscæ, 2012; Huertos Compartidos, 2012; Red Huertos Urbanos Madrid, 2012; Vancouver Urban Farming Society, 2012; Resources Center on Urban Agriculture and Food Security, 2012].

Economy of Value(s) (section 2.5.3):

Both from the consumer's end as well as the producer's, translating the environmental and social value mentioned into monetary terms is vital for normalization purposes (mainstreaming sustainable lifestyles).

Remember that...

Despite your efforts to quantify value, you must always remember that not everything can, and nor must it, be put in monetary terms. Intangible resources in the realm of life -human or natural- are just invaluable (inquantifiable yet precious) and we simply are bound to promote and protect them, leaving the economic tool aside, as life itself is way above any man-made economy (see figure 2-4 and section 2.4.1).

B) Responsibility

The so-sought-for participation and engagement only occur when commitment precedes. And in order to commit to something seriously you must have a certain sense of responsibility, especially when taking part in a project where more people are involved. It is actually through this personal and social responsibility that the participants of a project get self-empowered and eventually become true sustainable entrepreneurs. Responsibility is a wide concept with many sides to it, namely:

Respect and integration with nature:

The end goal being to make human activities have a positive impact on the planet, we have got a magnificent point of departure: the **Earth Charter** [The Earth Charter Initiative, 2012], a comprehensive ethical framework encompassing the main universal

principles that constitute the essence of the human species within the Earth ecosystem and that should guide us in “the transition to sustainable ways of living and sustainable human development”.

Remember that...

The Earth Charter [The Earth Charter Initiative, 2012] is an international declaration product of a “decade-long, worldwide, cross cultural dialogue on common goals and shared values”. And that is where the main source of its legitimacy comes from: the fact that it was created through the most inclusive and participatory process ever conducted, further enhanced by its endorsement by over 4,500 organizations, including many governments and international organizations. It reaffirms us in our vision of how socially-relevant and environmentally friendly projects have to be developed in a collaborative manner involving all the principal stakeholders.

The Charter is structured around 4 major pillars:

*Respect and Care for the Community of Life
Ecological Integrity
Social and Economic Justice
Democracy, Nonviolence, and Peace*

It contains interdependent and indivisible principles like ecological protection, eradication of poverty, equitable economic development, respect for human rights, democracy, and peace. Given our alignment in mission and values, we not only endorse the Charter but also take it as a fundamental pool of knowledge (consultation of most of Humanity's peoples) from where to derive our methodologies and tools for green entrepreneurs.

Your mission as green entrepreneur is no other than to integrate those principles into the core of your businesses and organizations as drivers of your conduct and actions. Several pragmatic tools can help you in this endeavor:

- Biomimesis, or the ability to learning from nature's best strategies.
- Ecological Economics, an economy within the ecology (biophysical limits of Earth).
- Economy of Value(s), an economical model that stimulates the creation of positive environmental and social value. It is not a substitute for the Ecological Economics, but rather borrows elements from it and takes it one step further: besides respecting Earth's biophysical limits it promotes a more positive vision of the economy that, instead of introducing environmental parameters as externalities that add to the cost, it focuses on creating and measuring positive environmental value.

Social responsibility or the quest for the common good:

As human beings, we have got certain obligations to fulfill with regards to our fellows. In the end, it all comes down to aligning our personal goals with society's. It is about meeting our individual wellbeing within that of our community, via the promotion of collective mechanisms such as the sharing and co-management of resources, the co-creation of common solutions, the participation in decision making, etc. Greater common good leads to greater equality as everybody gains access to similar opportunities for the simple reason of belonging to a community.

Remember that...

Communities [Bill McKibben, 2007] are probably the perfect unit for humans to work and live. In our view, their singular characteristic and grandest advantage is undoubtedly their magnitude. They are restricted to a certain size, be it regarding a geographical territory or simply an amount of individuals, so that the two following premises are met:

- Are small enough for every one of its members to be able to interact with and get to know everyone else. Human relations blossom in such environment and so natural structures emerge in a natural, organic manner. Confidence reigns throughout this cohesive social fabric and with it the nutrients for economic exchanges to flourish. Remember the Inverted Maslow's Pyramid. Self-financed communities incarnate this philosophy to perfection.

- Are big enough to allow for self-sustainability or almost. We are talking about the community's capability to satisfy its needs by generating its own resources, as well as to close the loop with its waste so that the cycle can go on in time. Urban farms fertilized with organic compost are a clear example of how a geographically-confined communities can produce the ecological food they need while recycling its waste in the process. Self-sustained communities are "resilient" communities, shielded from external pressures and changes. Let's not however confuse "resilience" with "isolation": a community, whether self-sustainable or not, must be understood as a cell within a network, interconnected to the global picture (human civilization) via its neighboring cells. Communication has to flow across the network for knowledge to be exchanged and best practices to prosper.

Personal responsibility:

Sustainability starts at home, if we want others to embrace sustainable lifestyles we must lead the way ourselves first and foremost. By living our own words we will legitimately demonstrate the feasibility of such standards and the quality of life attained, thus contributing to their expansion into best practices. Responsible individuals behave as "full citizens" in all facets of citizenship: engaged neighbor, political player, social/environmental activist, sustainable entrepreneur or professional, etc.

Responsible entrepreneurship:

A defining feature of sustainable entrepreneurs is their responsibility towards their community and society at large. As explained throughout this guide, responsible/sustainable entrepreneurs undertake their projects with and for their stakeholders, including the environment. By making use of collaborative networks they design, create and run their businesses together with the main intervening actors, sharing resources and risks and seeking to maximize the social and environmental value generated. This is social and environmental responsibility inherently embedded at the heart of entrepreneurship and it represents an essential pathway towards sustainability, quality of life and, ultimately, happiness.

Case study

Self-financed communities

Self-financed communities (SFCs) [European Microfinance, 2012; Change Nation, 2012; Comunidades CAF, 2012] illustrate how trust built upon strong human bonds can translate into economic flows that benefit the community and its members. SFCs consist basically of small (and the size once again is a vital parameter) groups of individuals, among who there is a certain binding connection usually related to a common geographic location, that come together to share their financial resources so as to meet the financial needs of its members. They provide soliciting members with advantageous loans, with very low interest rates, on the basis of democratic granting mechanisms that engage the whole community. The fund draws from the interests collected as well as membership fees. Any professional or personal project can be financed through these loans as long as the deciding committee agrees, normally driven by the community's common good. In our case, i.e. entrepreneurial ventures, SFC's working principles imply that members of the community invest in their fellows' projects while also being their customers, not mention friends, neighbors, relatives, etc. So, in the end, the proper administration of the fund as well as the success of the projects and businesses undertaken thanks to its resources is in everybody's interest and thus in the community's.

C) Democracy

Democracy is not just about politics. Businesses do play a vital role in spreading democratic participation in the economy, as a means towards a fairer society, through equal access to capital, which, in turn, creates opportunities for personal and societal development for all. The basic constituents of a democratic organization or project include:

Sharing:

Sharing of resources (human, social, economic, financial, etc.) and risks (launch of new business lines, innovation, financial, etc.)

Collaboration:

Collaboration as the common denominator for co-working, co-creation and innovation. In this regard, small units (teams, projects, businesses, etc.) working jointly through collaborative networks allow for flexibility, human scale and quality of life, while offering complementarity and wide reach.

Equal distribution of resources:

Our business, both internally and externally, has to go along with the goal of justly redistributing wealth and resources in society. There are several mechanisms that can assist in this endeavor, one of them being size. Because size does matter: smaller is better. For instance, if you are able to attract a large pool of small but numerous investors to finance your project ("crowdfunding"), then, although margins and individual profits may shrink, more people will get a hold of the return, consequently expanding common good. Moreover, by not relying solely upon a few big investors, you are enlarging your independence and freedom to act, as decision-making power will be democratically spread around.

Case study

Replicable business

A key feature of businesses that contribute to a more egalitarian economy concerns “replicability”. Replicable business models bear the potential to scale up their impact (a positive one in our case), without concentrating the profits obtained in few hands. They do so through open licenses and property rights (e.g. creative commons [Creative Commons, 2012] or Copyleft [Copyleft, 2012]) and by allowing others to “imitate” their models, while adapting them to local conditions. This way, successful models are exported, impact is enlarged and yet, the local communities benefit, as opposed to centralized or consolidated business models -like franchises, vertically concentrated industries or hierarchical multinationals- that put their own profits upper in the priorities ladder than the wider societal and environmental impact. What we need to aim for is scaling up impact not companies, which rather ought to remain at a human scale.

Fair trade:

A vision that encompasses many of the aspects mentioned in relation with a democratic business world. It refers to economic exchanges that abide to just and balanced contribution/reward systems for all the participants involved (producers, distributors, retailers, consumers, etc.) Hence, it is closely linked to the Economy of Value philosophy as it promotes prices that accurately reflect the real value generated by a product/service on all its stakeholders. It moves away from speculation and the sometimes-too-common belief that cheaper is better, towards right prices, just remunerations and better quality.

Case study

Cooperatives

An example of a very democratic business model and legal form is a cooperative. All members of a cooperative own shares of the organization, and have the same voting rights in the decision making. 2012 is the UN International Year of Cooperatives [UN International Year of Cooperatives, 2012].

D) Humanity

Last but not least comes our human nature, which we seemingly forget at times. Deep, meaningful human relations constitute the very essence of what we are: social beings. Good quality of life is therefore built upon elements that reinforce our social bonds such sharing time with our beloved, trusting each other, dematerialized simple lifestyles focused on people, positive attitudes, etc. And businesses have a big role to play there. On the one hand, they thrive on those conditions where confidence is at the heart of human interactions. And, on the other, they can greatly contribute to laying the foundations for such a society to become a widespread reality by simply promoting small, human-scaled organizations which, instead of focusing on maximizing they own economic profits, they are poised to search for the common good and put human wellbeing and Nature's health right at the core of their mission.

2.2.3 The entrepreneur's drive

Besides the social, environmental and business context of the idea, there is of course your own aspirations as entrepreneur on its regard. Economic self-sufficiency, personal and family quality of life, career advancement, knowledge gain, network enlargement, etc., are all very legitimate personal motives behind the entrepreneurship venture. The key here, to avoid any conflict of interest, to maximize the effectiveness of your work as you shall see, and, ultimately, to self-fulfill yourself, is to align the personal and societal goals of your idea along the same direction. Meaning that, the pursuit of your own personal goals has to make you progress towards the achievement of the social and environmental ones.

Remember that...

Openly sharing your personal goals with your teammates (project's co-founders) for the sake of transparency is a very recommendable practice that sets the tone for commitment and balance to occur.

Besides the goals pursued, there is probably another powerful reason behind your urge to undertake, and that is no other than your entrepreneur's lifestyle itself. When weighing the balance between working for others or for ourselves, there are a number of factors and trade-offs that come into play: top-down directives vs "creative freedom", office schedule vs flexible self-regulated one, "economic stability" (a monthly salary) vs free-time, suit and tie vs shorts and t-shirt, etc. Every case is different and nothing is just black or white, there is a wide range of grays in between on both sides of the equation, many of them specific to the particular situation and job. It is up to every one of us to assess the pros and cons of the alternatives and make up our minds depending on what we value more: security, creativity, freedom, stability, etc.

Your turn

Take some minutes to reflect on the next questions (Section 2.1.3 - DGBP template) aimed at digging deep into yourself to come up with the actual motive that pushes you to undertake this idea in particular:

Why do you, personally, want to become an entrepreneur?

What goals does your idea pursue?

Have you thought of other possibilities to achieve the same goals?

There is a certain belief, shared by the authors of this guide, that a society of micro-enterprises, where we keep the world at arm's length and are able to personally know every single one of our co-workers, collaborators, clients, etc., inherently embodies the principles of sustainability and generates quality of life and well-being. As opposed to big corporations where personal relationships or work-life balance are sometimes underrated in favor of top-down, pyramid-like hierarchies of power and economic profits. It certainly seems that both horizontality (democracy), small scale and human values are vital components of the happiness puzzle. See the previous section (The Principles of Good Business) for a more in-depth reflection on this.

Your turn

Assess your entrepreneurial nature by weighing the following pairs, often bond together in trade-offs. Assign relative percentages (table 1 - DGBP template), totaling 100% for each pair:

- *Regularity vs improvisation*
- *Stability vs freedom*
- *Economic certainty vs independence*
- *Low risk/low potential for change vs high risk/high potential for change*

Embarking yourself on a ground-breaking adventure, that is what entrepreneurship and innovation are about, implies dealing with a good share of uncertainty and, unavoidingly, of risk. Our world is settled on an ever changing balance between stability and instability, between certainty and uncertainty.

Entrepreneurs sometimes dwell too much on certain aspects of their project, fearing not to be good enough for their clients, unsure of the response from the market. Wanting to be perfect in two words. Don't spend hours, days, months re-designing your website, polishing your product, refining your marketing strategy, etc. fearing to really pass onto action mode and perform a reality check with some flesh-and-blood customers! There is no such perfection and you do not even need to get remotely close to it to get things started. Or you may never will ("zombi entrepreneur"). So take a small first step to test your service/product, analyze the outcome, draw some conclusions, improve your way and move onto the next stage.

With respect to what is considered "sufficient" information to trigger action, there are objective and subjective elements to it. The subjective part refers to the different levels of acceptance and even of comfort that we all have when speaking about uncertainty or risk. As entrepreneur you must be aware of the fact that undertaking a new project is always going to be associated with an uncertain outcome and therefore a risk of "failure". It is all matter notwithstanding of reducing that risk by relying on empowering data and taking a progressive approach. By taking it step by step, from prototyping to full operations, you can test miniature versions of your services/products in the market, learn from the experience, improve and then, once success has been demonstrated, scale up and move onto the next phase. By focusing on one thing at a time and doing it well, you will gain credibility and trust from your colleagues and clients thus allowing you to draw more resources for the next phase. All considered, just remember to place yourself somewhere between the progressive vision and the Precautionary Principle where you feel comfortable: neither too cautious, not too risky.

As of the energy equation, there is little left to say in this department, except that, if you really want to be an entrepreneur, an active lifestyle and approach to everything you do (observing, listening, doing...), is not just a recommendation but a necessity. You will have to constantly be on your toes, ready to adapt to the changing realities, explore new opportunities and improve your performances towards your objectives. "Success" will not usually knock on your door by mere chance, you have to go and meet it. You need to set the right conditions for the desired events to take place, and then they may indeed occur, luck permitting, or at least you will have maximized their likelihood. And all that requires a good deal of effort and energy from your side, and on a daily basis.

Lastly, it is also wise to remark that, on the personal realm, you may also encounter hardness at some point, and will have to be prepared for it, know what levels will be willing to assume and make difficult choices and decisions in accordance. There is always going to be a trade-off among different pieces of the puzzle such as effort, reward or work-life balance. Only you know where your balance lies. So load the tank, buckle up and enjoy the ride.

Remember that...

"Failing" should not be regarded as a dead end but as a way to improve one's approach within a learning process, a step towards the right direction.

Undertaking an idea or a project is a very demanding endeavor and so three reservoirs need to be well full at its beginning and constantly re-filled along the process: the economic, energy and emotional ones.

Prototyping is always a smart strategy to keep risk levels at bay. So scale down your service/product and try it with a few real users, learn from the experience and onto the next step.

"Success seems to be connected with action. Successful people keep moving. They make mistakes, but they don't quit." -Conrad Hilton (American Hotelier)

Your turn

Given the "difficulties" of entrepreneurship described, it is vital for you to take this test prior to setting the entrepreneurial initiative on fire. So fill it out (Section 2.1.3 - DGBP template) as honestly as possible, as on your sincerity depends the success and fate of your venture:

- Do you consider yourself an entrepreneur? Are you an entrepreneur?*
- And regarding this idea, do you know what it takes in terms of time, effort, economic resources, etc.?*
- So, what is your commitment with respect to yourself, your teammates, the rest of the stakeholders?*

2.2.4 Mission and objectives

Building on the contextual and personal analysis conducted with respect to the reasons that drive the entrepreneur to undertake her or his idea, as well as the role of businesses in shaping a better world, now the time comes to synthesize and formalize all that information into a simple yet elegant form, a project-defining statement: the mission. It constitutes the essence of your idea, the motive behind the project and, ultimately, the actual goal you pursue with it. It comes naturally in reply to the “why” dilemma and must always guide your actions towards it.

Remember that...

Simplicity is usually reached through hard work. In this way, synthesizing your mission in a short, sweet and to-the-point statement will not come easily; it may be even take months. For now, you can content yourself by thoroughly replying to the guiding questions posed across this section, or even by defining the objectives (more concrete and straightforward) as explained in the next section, and the precise wording of the mission will come along at some point, whenever inspiration kicks in.

As an overall rule, although the mission is usually somewhat of a utopia, it serves well the purpose of setting the direction to follow with our venture.

Case study

AHLF Project 1

As an illustrative example for the coming steps, we are going to use a “grocery store” as the initial, preconceived idea/project in the mind of the entrepreneur (Adam). From that idea, we move backwards and derive the following mission, renaming the project along the way so that later it can take different shapes and not just only that of a grocery store:

“The mission of Adam's Healthy & Local Food Project (AHLF Project) is to contribute to the health and overall well-being of the inhabitants of Adam's neighborhood by providing quality ecological groceries from local producers.”

Your turn

State your project's mission (Section 2.1.4 - DGBP template): “The mission of (project's name) is to achieve...”

Once the mission has been set, the next step consists of decomposing it into specific objectives, along the three dimensions of sustainability: social, environmental and economic. Sometimes the reverse process can be found easier and so you can first come up with the specific objectives you want to achieve and then build the mission from those blocks, via a synthesis procedure.

As of the split of the objectives into the three dimensions of sustainability, although artificial (everything is linked in reality), is indeed quite helpful as it, on one hand, reminds you that you, sustainable entrepreneur, must contribute to the betterment (positive impact) of each of them; and on the other, allows for the visualization of the project from those three complementary angles.

Remember that...

In any case, it is advisable to have no more than 5 or 6 objectives (2 per dimension for instance), otherwise our ability to focus and effectively use the resources available gets highly compromised.

Regarding the economic dimension of the mission/objectives, it refers to the external impact the project seeks to have on the economy, either at local or global level. And not to internal economic aspects of the project itself like its economic viability, financial resources, business model, etc.

Case Study

AHLF Project 2

Continuing with the AHLF Project example, these could be its objectives:

<i>Social dimension</i>	<ul style="list-style-type: none"> 1. Improve his neighbors' health and well-being 2. Connect and help establish bonds between ecological local farmers and local consumers
<i>Environmental dimension</i>	<ul style="list-style-type: none"> 3. Reduce the ecological footprint of groceries production, distribution and selling 4. Protect biodiversity by encouraging the use and consumption of local varieties and species
<i>Economic dimension</i>	<ul style="list-style-type: none"> 5. Create good employment opportunities in the neighborhood 6. Allow local farmers to get a bigger and fairer share of the price of their products (fair trade)

Your turn

Following the format from the example (table 2 - DGBP template), enunciate your objectives along the three dimensions of sustainability.

2.3 WHO? Identifying the main actors (Stakeholders)

If the first step proposed by this methodology was to define the mission/objectives that will drive and guide the project, the second will be the identification of its main actors. The order of this logical procedure represents a major novelty in itself, as the actual contents of the project (the what) will be co-created not just by you, the founder, alone as it used to be the case, but by your project's most important actors (the "stakeholders") on the basis of the objectives set. By so proceeding we will be ensuring the most effective implementation towards the achievement of your goals, in the eyes of all the players, and with the resources given.

This philosophy has extensive implications, meaning, for instance, that the founding team must switch from the role of creator to that of facilitator and open the doors of the "organization" to society at large in search of collective intelligence, "crowd-sourcing" [Crowdsourcing.org, 2012; J. Howe, 2006; D. Whitford, 2010], action and sharing of resources, "crowd-funding" [A. Ordanini, L. Miceli et al., 2011; M. Sullivan, 2010], collective consumption [L. Morris 2011; I. Björck, 2011], etc. Therefore, through this vision, the actual design and put into practice of the project will be carried out by a variety of participants, under the coordination and engagement of the founders, and in pursuit of the overarching mission.

Remember that...

For this new vision on entrepreneurship to succeed, you and other possible "founders" must change your approach to the project and switch your role from "creators" to responsible listeners, coordinators and "catalysts".

The "crowd" knows and does better. The creative potential of sharing largely exceeds the risk of "theft", so open your mind and project to society and let the knowledge and action flow.

With this framework in mind, your task now concerns the identification of the so-called "stakeholders" of your project. They are simply those actors -social or environmental agents- that are somehow related to any of the project's objectives, in the sense that they are affected (influenced/impacted) by them or the other way around. At this point, we must emphasize how critical it is to identify all the stakeholders, as the missing of a single important one can lead to an unbalanced conception of the project and thus to its failure. In other words, you need to understand all the implications your project, as defined by its objectives, has and the actors involved in them. For instance, if you carefully inspect the impact your project can have on its local surroundings (location of operations), you will be able to identify the different social agents that play a part (they conform the "local community" category), and how they shape, enable and leverage your project. For this purpose, a practical way of viewing it is through a multi-layer model where, starting from the inner core, the founding team, you move out to outer layers representing increasingly distant stakeholders (employees, suppliers, collaborators, clients, beneficiaries, NGOs, public administration...); all the way to society at large and, lastly, the planet itself as the biophysical substrate where we all live. Needless to say that this figure has to be customized for each particular project as links and relations vary.

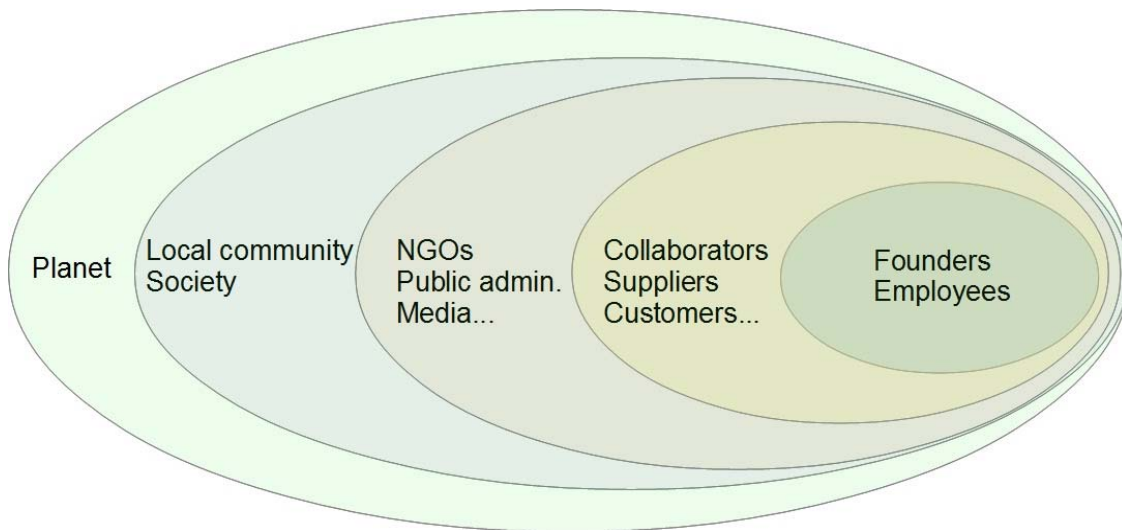


Figure 2-3. Multi-layer stakeholder model

Regarding the environment itself, given its wide implications, we will not consider it as a separate stakeholder, but rather a transversal philosophy whereon to guide our all practices seeking good environmental integration (see sections 2.4.3 and 2.5.1 of this module, and the entire module 3).

Remember that...

Since the moment you defined your mission and objectives, you must think in their terms, emptying your mind, once and for all, of your previous pre-conceived project. The concrete flavor the project takes will be decided upon by you and your stakeholders, as the most effective way to attain the objectives. On the matter at hand, the “stakeholders” refer directly to the objectives, in the sense that they influence them or are influenced by them, and so we must perform the identification going through each objective individually.

case study

AHLF Project 3

AHLF Project has the following stakeholders, objective by objective:

Objective	Related stakeholders
<i>1. Improve his neighbors' health and well-being</i>	Adam & founding team, clients, families of clients (including kids, i.e. future generations), local community (neighborhood, including local associations and NGOs), doctors, public administration, schools, media, the environment
<i>2. Connect and help establish bonds between ecological local farmers and local consumers</i>	Adam & team, clients, families of clients, local farmers (providers), local community
<i>3. Reduce the ecological footprint of groceries production, distribution and selling</i>	Adam & team, local farmers, clients, local community, conventional retailers and distributors, the environment
<i>4. Protect biodiversity by encouraging the use and consumption of local varieties</i>	Adam & team, clients, local farmers, families of clients, schools, local community, media, public administration, the environment
<i>5. Create good employment opportunities in the neighborhood</i>	Adam & team, employees, local farmers, local community, media, public administration
<i>6. Allow local farmers to get a bigger and fairer share of the price of their products (fair trade)</i>	Adam & team, local farmers, clients, local community, schools, media

Your turn

List all the stakeholders of your project following the format presented in the example (table 3 - DGBP template)

2.3.1 Principal stakeholders

Next, once you have identified all the actors concerned, you should narrow down your scope to the primary ones, for the sake of focus and effectiveness in the use of limited resources, both factors key to being strategic, especially in the early stages of an entrepreneurial venture. In practice, by looking at the objectives-stakeholders table just created, select the stakeholders that appear the most often all throughout, those are the most significant ones -principal- as they are linked to many of the project's objectives. Then, in section 2.5.2 (Business model), the choice made will get validated because if an important stakeholder is missing the whole business model may be unbalanced or even not work at all.

Besides, in Module 3 we will carry out a similar selection procedure regarding the main actors that intervene along the environmental life cycle process of your action lines.

Remember that...

The rule of thumb regarding the number of principal stakeholders would suggest having between 6 and 8.

You always need to have at least one stakeholder representing the environment and its relationship with the project. It can be the environment itself, kids (future generations), environmental NGOs, environmental consultants, etc. Another mandatory stakeholder to take into account is, obviously, the founding team itself. Likewise about the beneficiaries (final "receivers" of the project's main impact), and the customers, without which the project will not self-sustain itself.

Case study

AHLF Project 3

The principal stakeholders for AHLF Project (the most repeated ones from the previous table) are:

Adam & founding team, local farmers, clients, families of clients, local community (neighborhood, including local associations and NGOs), media, public administration and the environment.

After a broad overview, the time has come to get into the details of each particular stakeholder and study their specifics so as to better meet their needs. The two major "internal" stakeholders you have to address are of course the team (project's founders and/or executors) and the collaborators (project's social capital). We will be dealing with them in section 2.4.3, as part of the Strength Analysis. For now, you will focus on the direct targets of your project -the beneficiaries-, as well as the its main investors -the clients or customers- (yes, clients "invest" their confidence/money in your project by buying its products/services), and finally other principal "external" stakeholders.

Your turn

From the complete list of stakeholders constructed, select the 6-8 principal ones in your team's eyes, associate them with their related objectives and state the reasons why they are important for your project (Table 4 - DGBP template).

2.3.2 Beneficiaries and clients

Beneficiaries are a special stakeholder, as they benefit from your project's mission/objectives. They are your final target, the reason behind the project, ones you have in mind when you design your services/products. On the other side, clients are a subcategory of the beneficiaries: those who provide you with a return (monetary or in kind) in exchange of the services/products you deliver to them. Concerning the clients, at this stage you do not know yet who they will be precisely as that will come through the definition of your catalogue of services and/or products and their corresponding business model (section 2.5.2). However, a first guess on this matter can be a good explorative exercise.

Remember that...

Not all beneficiaries are clients, typically because on some occasions you will not address directly the beneficiaries yourself, but through an intermediate entity which acts as the client. A classic example can be imparting classes at a free public school, where students -the beneficiaries- do not pay tuition fees and is the State who covers the teachers' salaries.

Case study

AHLF Project 4

Objective: 1. Improve his neighbors' health and well-being.

Beneficiaries and needs:

- *Clients and their families (especially kids): healthy food and good nutritional habits*
- *Local community: raising and spreading awareness among neighbors*
- *Public administration: good health of its citizens*
- *Schools: conveying good eating habits to students and providing them with healthy food*
- *Media: success stories of projects that help improve people's health*
- *The environment: to align people's health with natural ecosystem's. Especially, in this case, at the local level: local community environment, including the nearby cultivated lands.*

Clients and needs:

- *Clients: affordable access to healthy food and good nutritional habits → food buyers*
- *Local community (local associations) and public administration: experts that show how to eat healthily → seminars and workshops*
- *Schools: combined needs of clients and local associations → food buyers and workshops/classes*
- *Specialized media: coverage of local success stories on changing eating habits*

Your turn

Guided by the format from the example (table 5 - DGBP template), list all your beneficiaries and potential clients (to be determined later) as well as those needs of theirs that the project will be addressing.

2.4 WHAT? Co-creating the best strategy (Strategic Action Plan)

Summing things up, up until this point you have defined the end goal of your project (mission and objectives), as well as the main actors that play a part in it (stakeholders). The guiding star spotted and the crew selected, now it is all matter of designing the best transportation means to get to your destination (the what), and lastly the most effective route to take as well as the communication plan to tell the world about your adventures and encourage their participation and engagement (the how). But this, as a major innovation from other business development tools, you are going to do it in a jointly, collaborative manner with your partners in this journey -your dear stakeholders-. You will do it so if you share the believe that the new world we all look for lies in the very pathway we follow to reach it. It is the leading by example philosophy and in your case implies that, if you want to create businesses that promote collaboration and sustainability, the very way you develop those businesses has to be collaborative and sustainable itself.

In more technical terms, in this section you are going to co-create with your stakeholders your strategic action plan, as the best solution to effectively attain your mission and objectives, and thus to tackle the problems/needs behind them. Finally, in subsequent sections, you will work on the implementation of the project (how and where), as well as the roadmap to get it launched and working (when).

Remember that...

At this point you may be wondering why on Earth you need to be consulting and engaging the stakeholders in the project, when it is actually YOUR project, isn't it?

Remember then that the key to acting and thus being responsible is to think and do things for and with others, including future generations (the environment!!)

Your turn

Operating in the same manner, select the 6-8 most relevant stakeholders of your project in your team's eyes.

2.4.1 Strategic thinking: innovation, social & environmental value, strength and viability

Under the name "strategic action plan" an entire philosophy is enclosed. What we are presenting here indeed is a strategic approach to the design and put into practice of an entrepreneurial project, but a different one from conventional wisdom. Strategy, for you, sustainable entrepreneur, should and must be a synonym for sustainability. In this sense, the best strategy will lead to the most sustainable and sustainability-seeking project. Our thesis does not just end there however, the icing on the cake is our firm believe that sustainability is directly related to better quality of life, an indispensable ingredient on the road to happiness. Sustainable lifestyles, rooted in simple yet very human principles (deep relationships, local realm, slow but enjoyment-full pace...), are indeed happier lives. Several studies [SPREAD Sustainable Lifestyles 2050, 2012; D. Farber, september 2011; The Happy Planet Index, 2012; UNDP, 2012] suggest those assumptions are indeed real and so does common sense.

Translated into an abstract model, in our eyes, the time has come to make the traditional conceptualization of Sustainable Development [United Nations Sustainable Development Division, 2012] evolve. Its three dimensions (economic, social and environmental) should not just be viewed as separated circles that overlap, as if, for instance, the economy may not be linked to, or better said contained within, the planet or even society. A more holistic, closer-to-reality approach is needed, one in which the environment is actually represented as what it is, the biophysical substrate where all human, and life-related in general, activities take place. In this sense, in our new model/diagram, the planet would be the outer-most sphere comprising all the rest, then would come society and, lastly, within it, we would place the economic sphere. Bearing always in mind that this latter, inner-most sphere is a “virtual” one, a mere human-made symbolic concept that just refers to the management of the only real assets: humanity and nature.

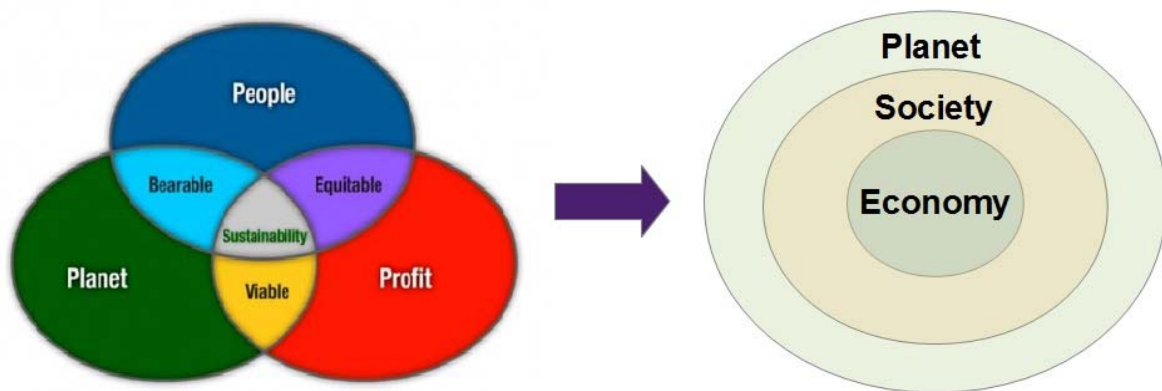


Figure 2-4. The transition towards a new holistic view of Sustainable Development [United Nations Sustainable Development Division, 2012]

Putting things together, the strategic action plan refers to a methodology that allows you to define your strategic action lines that best materialize your mission/objectives of the project by thoroughly studying the sector in search of innovation opportunities, consulting and engaging your stakeholders, maximizing the environmental value created, optimizing the resources available, and ultimately taking decisions aligned with your team's strengths (doing what you love and therefore are good at).

If we were to decompose the pie into its ingredients, these would be the strategic criteria for design purposes:

- **Innovation potential:** best practices or areas for improvement/innovation opportunities identified through a sector benchmarking.
- **Social value:** socially-related aspects that yield the maximum social value to the project's stakeholders. The best approach to effectively identify and tackle those aspects involves a fundamental approach that needs to permeate to every stage of the entrepreneurial and managerial processes: the consultation and engagement of the principal stakeholders.
- **Environmental value:** a so-called green project, besides maximizing social value (social dimension of sustainability), must also live up to its name and deliver a significant positive environmental value, both by improving the environmental practices of its beneficiaries and its own. For this purpose, in this strategic phase, we perform a comparative environmental assessment of all the potential action

lines possible, in order to select those with the highest potential for environmental value creation.

- **Strengths** (human resources and social capital): a wise strategic move is to focus resources and efforts around the strong points that both the founding/executing team and its social capital (contacts and collaborators) possess in terms of intangible assets: knowledge, experience, know-how, etc.
- **Viability** (economic-financial and technical): last but not least, some action lines are more or less viable than others with respect to economical-financial or technical matters. In this regard, we consider viability as a continuum rather than a binary variable ("viable/not viable"), and so, through feasibility studies, we can comparatively assess the use of resources, the demand of technical capacities, etc., of all potential action lines.

The strategic action plan is therefore defined as the solution that maximizes all those criteria at once. Visually speaking, it involves maximizing the area those 5 dimensions delineate on a 5-axes spider diagram.

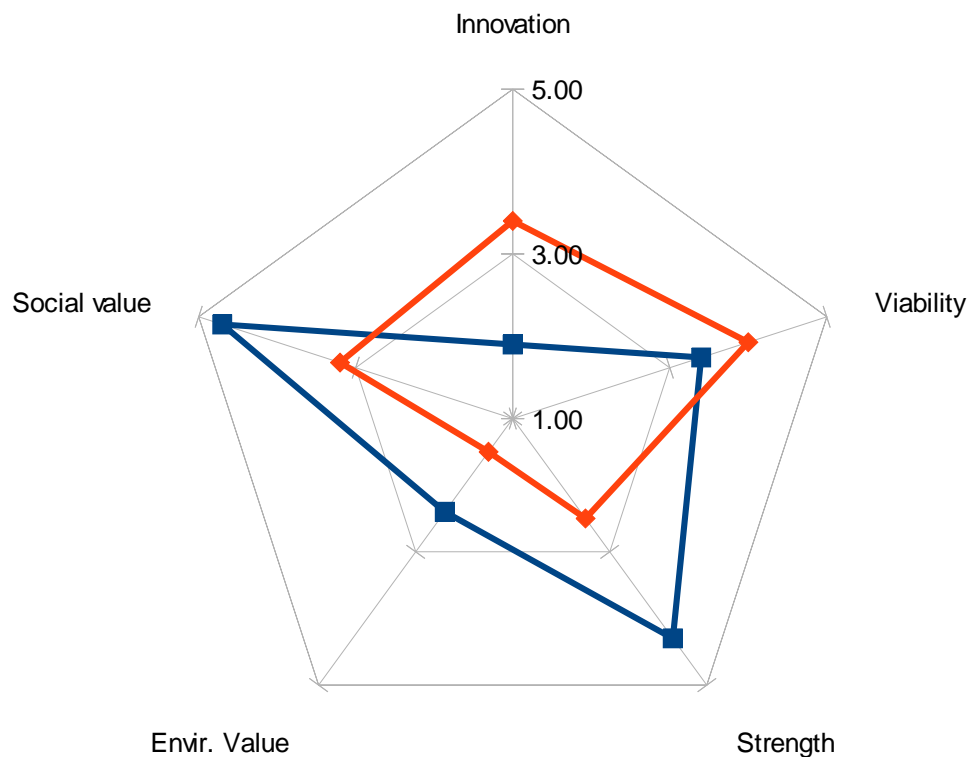


Figure 2-5. Strategic mix spider diagram for two action lines (red and blue)

Taking all matters into consideration, the approach we propose to (sustainable) strategic business design, revolves around three key elements:

- **Vision:** the global ecosystem (planet) as the overarching biophysical support where our civilization lives (society), and the economy as the management.
- **Tools:** the strategic ingredients described aimed at maximizing the social and environmental value you create through innovative, viable and sound solutions.
- **Methodology:** the entrepreneurship process described founded on the mission (why) and the co-creation of the project itself (what and how) with the stakeholders (who).

Strategic thinking

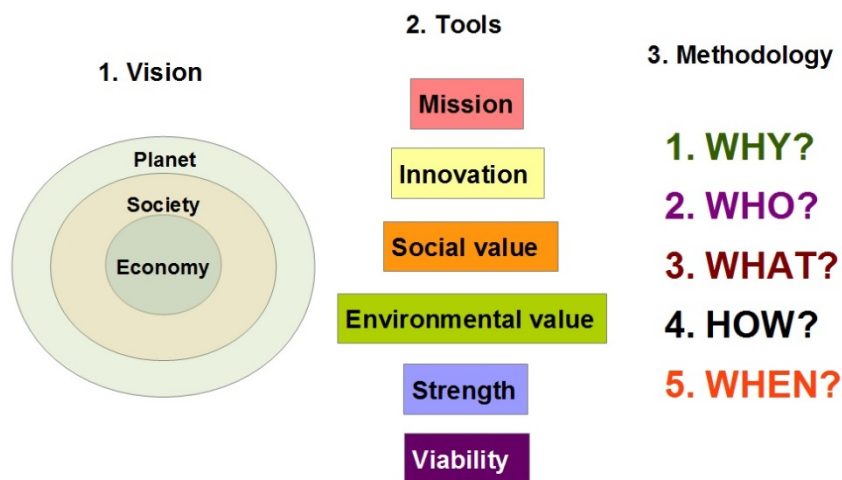


Figure 2-6. The elements of (sustainable) strategic thinking: a vision, a set of tools and a methodology

Your turn

Build your strategic (sustainability) mix, by assigning relative percentages to the following key ingredients of the strategic decision making process (table 6 - DGBP template):

- *Innovation potential*
- *Social value*
- *Environmental value*
- *Economic & technical viability*
- *Strengths*

Those weights will assist you later on when taking key strategic decisions and establishing priorities.

2.4.2 Materiality analysis: from material aspects to potential action lines

The materiality analysis represents a solid first step towards narrowing the scope of your entrepreneurial initiative, by focusing your resources on those aspects, related to the mission and objectives, that really are material (potentially strategic) both for your stakeholders and for the sector where you will operate.

Remember that...

At this point you need to unambiguously define two important concepts before moving on:

- *Aspect: an etymological definition [Dictionary Reference, 2012] would read “a distinct feature or element in a problem, situation, etc”. In the case of the environment, for instance, according to the International Standardization Organization [ISO 14001:1996], environmental aspects are “elements of an organization’s activities, products or services that can interact with the environment”. For the sake of illustration, “customer satisfaction” can be a social aspect, “energy consumption” an environmental one, “liquidity” an economic one, “transparency” an intangible one and so on. Check the Sustainability Inventory attached (Annex I) for a comprehensive compilation of social, environmental, economic and intangible aspects for entrepreneurial projects and businesses.*
- *Material aspects: those aspects that are at the same time important for the stakeholders and immature in the sector (thus offering opportunities for innovation).*

The methodology, conceived to determine the material aspects, comprises two complementary studies:

- **Consultation** of the **principal stakeholders** on a set of pre-settled aspects (a priori information), plus some open questions aimed at finding new, unthought-of aspects.
- **Sector benchmarking** of like-minded organizations or projects, a powerful mechanism to spot opportunities for innovation in the sector.

The materiality analysis is therefore your canvas to note the results of those studies and draw conclusions from them by assigning (via the graph 2-8 below) higher priorities to those aspects standing as more relevant (bigger impact) for the stakeholders and less mature in the sector (more innovative). Lastly, on a visual map depicting the principal stakeholders, the material aspects are assembled together with their closely related stakeholders to form your potential action lines, the building fabric for your strategic services/products as you shall see.

Remember that...

An “action line” of a project or business is a set of activities, services or products that share the same material aspects and relate to the same stakeholders.

On the other hand, action lines are usually directly linked, mainly, to a few objectives; although there can be multiplicity in both directions.

Case study

AHLF Project 5

In the case of Adam's Healthy & Local Food Project, examples of action lines, services encompassed by them and objectives directly related could be:

- *Providing healthy & local food to the neighbors: on-shop selling, online selling plus at-your-door deliveries, monthly farmer's markets, etc. → Direct objectives: 1, 2 & 3*
- *Raising awareness on the benefits of healthy food and good nutritional habits on people's well-being: workshops at schools, public conferences, in-company demonstrations, etc. → Direct objectives: 4 & 6*

Sustainability Inventory: potentially relevant aspects

As mentioned, as a starting point, you are going to need some "a priori" information drawn from your own knowledge of or experience in the field. It refers to those aspects that you regard as potentially important for your main actors (principal stakeholders), given your objectives. At this stage, it is fundamental to place yourself in the shoes of each stakeholder in order to see the world through their eyes and thus come up with the most accurate a priori information. This menu of "a priori" aspects will stand as the baseline topics for the upcoming benchmarking and consultation processes.

Remember that...

"A priori" information helps you focus, but can also induce some flaws in the methodology if not treated properly. Firstly, it must not be confused with "prejudices" and so it has to be supported on sufficiently reliable data. Secondly, too much information of this sort may blind us from discovering new innovative solutions previously unheralded, meaning you need to leave enough room for creativity to blossom. This functionality typically takes the form of open questions (text boxes in the case of an online survey) to appear at the beginning of questionnaires in an attempt to not "pollute" the interviewed with your own tendencies. In short, coming up with a balanced trade-off between well-grounded a priori information and space for the imagination is fundamental to get the maximum out of a consultation/engagement process.

With this purpose in mind, in order to facilitate the task, we have provided you with an inventory of classic aspects (annex I) for an entrepreneurial project or business to take into account. It should not be taken nonetheless as a closed, complete list; but rather as a working reference, you being able to adapt it or add new aspects of interest to the project (mission/objectives) at will. The environmental aspects in this inventory, for instance, are derived from the United Nations Statistics Division [United Nations Statistics Division, 2012] and the Global Reporting Initiative's [Global Reporting Initiative, 2012] compendiums of generic environmental aspects for businesses.

Study case

AHLF Project 6

Back to our dear AHLF Project, the list of “a priori” aspects, potentially important for its principal stakeholders, could include (we only scrutinize objectives 1, 2 & 3 for the sake of space, but you should go over all yours):

1. Improve his neighbors' health and well-being

- Environmental: people's awareness on the link between environmental ecosystems health and human health, use of environmentally-hazardous medicaments and drugs
- Social: work-life balance, social interaction and participation
- Economic: sales of medicaments and drugs, people's economic productivity, distribution of work and wealth

2. Connect and help establish bonds between ecological local farmers and local consumers

- Environmental: promotion of ecological agriculture and local products
- Social: social relations, local bonds, eating as a social activity, empowerment of local farmers and local consumers, collectivity and common good
- Economic: local economies and employment, *Economy of Value(s), elimination of intermediaries, fair-trade

3. Reduce the ecological footprint of groceries production, distribution and selling

- Environmental: people's environmental awareness, use of pesticides, transportation, greenhouse gas emissions, water consumption
- Social: people's health & well-being, social interaction and participation, human scale, humanization of food chain, eating as a social activity
- Economic: local economies and employment, Green Economy, Economy of Value(s), elimination of intermediaries

*Economy of Value(s): an economic model that promotes, through economic mechanisms, those activities that create positive social and environmental value (see section 2.5.3)

Your turn

Mimicking Adam's footsteps, go through the sustainability inventory provided in annex I, and decide on a set of “a priori” aspects (between 12 and 25) of potential significance, in your eyes, to your principal stakeholders, along all your objectives and covering the three dimensions of sustainability. Fill in table 7 - DGBP template.

Sector benchmarking: innovation

The term “*sector*”, as used here, refers to a wide range of projects, organizations or entities that share your very own mission and objectives, both on a global and a regional scale. In this sense, the global sector benchmarking, especially for internationally-bound or internet-related projects, allows you to study and eventually incorporate into your own project, the best practices from international leaders. On the other hand, the regional benchmarking serves for the purpose of assessing the maturity level, in the specific sector and geographic region (be it a country or a smaller/larger area) where operations will take place, of a range of previously identified aspects of interest, which usually come from the global analysis or some a priori information you may have thanks to your own experience in the field. It is about knowing what is already being done and what is not in your specific target region in order to spot opportunities for innovation.

In summary, the purpose of the sector benchmarking is two-fold:

- To identify best practices from global leaders in the sector so as to learn from the best.
- To map your geographical region of operations in terms of what exists and what is missing in the sector, seeking to spot opportunities for innovation. In some cases those opportunities can be materialized by simply incorporating, in an original way, the best practices learned before.

Case study

AHLF Project 7

For instance, in the case of the AHLF Project, the “sector” may comprise, from the two angles explained:

- *-Global: relevant international or national players in the realm of healthy local food and nutrition habits. It can comprehend for example a state whose public educational system offers healthy food as well as good nutritional courses for all students, a food multinational that really believes in these principles or a specialized international NGO.*
- *-Regional: same as its global counterpart but geographically focused on Adam's geographical region of operations. The sector in this case could encompass from existing associations of local ecological farmers, to groups of families that get together to buy ecological products from local producers, passing by certain municipalities or schools where these matters are already tackled.*

Remember that...

It is important to tell the difference between the regional sector benchmarking and the consultation of the stakeholders. The benchmarking targets similar initiatives that already exist within your geographical realm, while the consultation addresses the actors that will play a direct role in your project (beneficiaries, clients, collaborators...) Traditionally, the terms used for such a benchmarking range from "market research" to "competition analysis". In case you are true believer of collaboration, maybe you would prefer to include alike organizations or projects within the "collaborators/partners" category of the stakeholder model, and so study them through the consultation process. After all, as we will see, one of the methods to carry out the benchmarking is the direct consultation approach. Whatever the name we call it, what matters is that you understand our final purpose: to increase the impact along your mission/objectives by improving the current status of the art.

The benchmarking methodology consists of, first, defining the boundaries of the sector according to your mission/objectives and resources you can allocate for this study (time and money typically), then single out the leaders in it and finally conduct exhaustive comparative research on them in order to identify the best practices and areas for improvement. The work can follow a variety of techniques depending upon how information is obtained. Direct approaches involve, ideally, direct consultation of relevant representatives from the organizations selected. Nevertheless, when access is not a given, you can also use secondary or tertiary sources of information like official websites, other sites related, social media, blogs, the press, etc., understanding of course their limitations. A combination of these sources may yield optimal results by portraying a picture of the organizations under study from different angles.

As of the specific areas of research, "a priory" knowledge of the sector plays, once again, a key role to guide the enquiries. Building on the list of "a priory" aspects from the previous section, you can add some new ones specifically related to the sector. Besides, remember to open your mind and allow sufficient breathing space for the surveyed organizations to come up with their own important aspects to complete your compilation.

The parameter gathering the outcome of the sector benchmarking (both at the global and regional level) is called **maturity** and it points to those aspects that are not being much considered in the sector ("immature"), and thus offer opportunities for innovation. The overall bottom line of this whole exercise is simple: you must thoroughly know the sector in which you are going to operate if you wish to be successful in your ventures. Then, perfection unreachable and conditions ever changing, the smart strategy is to approach entrepreneurship as an iterative process searching for excellence.

Remember that...

"Mature" aspects are those already considered/treated by the organizations/projects in the sector. Maturity, in this sense, is opposite to innovation potential and so searching for "immature" areas within the aspects pool means spotting innovation opportunities.

Your turn

Taking guidance from the example provided, assess your sector by observing how your mission and objectives are being tackled nowadays (actors involved, initiatives put forth, etc.) Then, focus the scope of your study by selecting 3-4 leading organizations/projects in the sector, both in the international arena and your regional/local area, with regards to your project's objectives. Although both angles are highly recommendable, in case of lack of resources (basically time), you can focus solely on the regional part.

A) Global sector benchmarking

1. For the 3-4 organizations chosen (sector leaders), comparatively analyze their best practices and strong points in general, as well as their areas for improvement. You may deduce some new aspects (mature -from strong points- and immature ones -from areas for improvement-) to be added to the "a priori" list from the previous section "Sustainability Inventory". Note your findings on table 8 - DGBP template.

Objective - Best practices and strong points - Areas for improvement - New a priori aspects

2. Getting into the specifics, appraise how important your predefined aspects (entire a "piori" list, including the new ones from the previous table) are for each of the sector leaders. This time, conduct a semi-quantitative comparison, with relative relevance values ranging from 1.0 to 5.0, grounding your evaluations on verifiable data and facts as much as possible. Lastly, take the average per aspect for all the organizations, as a measure of the aspect's maturity in the sector (how much it is being tackled). Use table 9 - DGBP template.

A priori aspect - Importance for global sector leader 1 - Importance for global sector leader 2 - ... - Maturity (sector average)

B) Regional sector benchmarking

Same drill as for its global counterpart, but with 3-4 organizations within your local region of operations. Use tables 10 & 11 - DGBP template.

Stakeholder consultation: social value

On this second stage you begin engaging your main stakeholders with the first of a series of participatory mechanisms seeking to open up your project to the world: the consultation of the project's principal stakeholders for its actual design. All the steps leading to this point have paved the way for the stakeholder consultation to be carried out with the maximum amount of information possible: the mission/objectives well set, the principal stakeholders identified and the sector thoroughly studied. So we now proceed on to designing questionnaires to survey the principal stakeholders with the aim of finding the most effective action lines (and eventually services and products) to realize your objectives. By involving the stakeholders in this co-creation process you are guaranteeing acceptance from their part and, most importantly, the maximization of the social value generated by your project.

Case Study

NASA

Even NASA (National Aeronautics and Space Administration [NASA, 2012]) needs to count on its stakeholders to know where to go and what to prioritize in its quest to explore the Space and bring the findings down to Earth to improve our stewardship of it (this is, wording aside, NASA's mission).

In this manner, it carried out a massive survey in 2010 to define its 2011 Strategic Plan together with its major stakeholders: space science and aeronautics experts, the scientific community, legislators, educators, businesses, the general public (mostly US citizens), international partners, etc. The outcome helped lay out NASA's strategic direction for years to come, always in view of the organization's mission and vision and given the resources available at the time.

Nonetheless conditions changed in 2012 as NASA's share of the federal budget shrunk, due mostly to the financial crisis, and so its strategic plan needed amendment. The National Academy of Science -NAS- [NAS, 2012] came to the rescue and, as an independent body, embarked on conducting another stakeholder consultation to review NASA's mission, vision, strategic direction and key action lines in light of the country's new set of priorities and taking into account the budget constraints being imposed.

Experts were engaged in focus groups, meetings held with legislators and so forth. And, as for the general public, an input form was made available online for anybody to fill in [NAS revision of NASA's 2011 Strategic Plan, 2012]. In a demonstration of transparency, NAS not only used cloud-based free technology like Google Forms [Google Forms, 2012] but also published the results on its website [NAS, 2012].

Jesus Iglesias, the author of this Module, contributed to this consultation, as a former space scientist himself. And this is no coincidence, the bad news is that, looking through the multiple responses, one can immediately realize that most participants are somehow closely connected to the space science world in one way or another (aerospace industry, scientists, members of astronomical associations, university students from related majors, etc.), proving how difficult it is to actually reach and engage an heterogeneous "general public" category, comprising especially non-directly concerned individuals. This is a category difficult to reach out to, but so important to NASA as it represents society's vision on the role of NASA as a public agency and the relevance of space exploration. This is probably also the case with many of you green entrepreneurs as well. To our liking, a different approach ought to be adopted in order to reach for and involve this stakeholder in greater depth: a more participative consultation methodology, incentive-based engaging mechanisms, etc. Besides, the input form should include a question to enquire users on the source that led them to the form, whether somebody informed them directly, they saw it on a third-party site, on the social media, etc. This piece of information, an input to the communication plan, is fundamental in order to focus on certain channels where our target (non-experts) is more prone to be found and engaged.

Once all this information is gathered and properly processed, valuable insights will be provided on NASA's main areas of interest such as federal budget balance, international cooperation in Space, participation of the private sector and its communication plan.

The process to prepare the consultations comprehends the following sequence of steps:

1. Definition of the main topics for consultation:

The aspects of potential interest for your principal stakeholders, along the project's objectives, are derived from the famous "a priori" list plus the new ones emerging from the sector benchmarking. Let's call these the **"key aspects"**, as key they will be for the rest of the steps ahead.

Your turn

Drawing from the initial catalogue of "a priori" aspects plus the new ones resulting from the benchmarking (global and regional), make up a full list containing all the aspects of potential interest for your principal stakeholders, regarding your objectives. From now on, these will be your "key aspects". Make sure you have no more than 5 key aspects per objective, that is, in total, around 20 to 30. Fill in table 12 - DGBP template

2. Designing the questionnaires

The key aspects constitute indeed the central topics for the consultation questions. Building on them, we invite you now to articulate questions to survey the principal stakeholders (a questionnaire per stakeholder) and find out how relevant indeed those a priori aspects are for them. For the sake of comparative analysis, you have to make sure there is one semi-quantitative question, with a scaled numeric answer (e.g. from 1.0 to 5.0, with 1.0 meaning "not very relevant" and 5.0 "very relevant"), addressing each key aspect.

Once again, at this point, it is a must to formulate open questions seeking to pinpoint "missing" aspects that may have been overlooked in your internal analysis. These sort of question must always come before the closed ones so as not to interfere in the participant's answers with your own, preconceived information.

Remember that...

A different questionnaire is required for each principal stakeholder as the way we will approach them (methodology) for the consultation will vary: the wording of the questions, the setting of the process, etc. The aspects under study (roots of the questions) will nonetheless remain the same for all the stakeholders interviewed in order to be able to compare responses.

We normally pose one question per key aspect, although we can always create questions that inquire about more than one aspect at once. These are, typically, "grid" type of questions, e.g. "assess from 1.0 (not relevant) to 5.0 (very relevant) how relevant the following aspects are to you".

3. Consultation methodology

Regarding the consultation process itself, it has to be adapted to suit the characteristics of each particular stakeholder. As significant as the contents of the questionnaire themselves, if not more, is the consulting methodology to be used. The way in which you interact with your interviewees influences to a great extent their behavior towards it, and thus ultimately their answers. It is up to us to ensure the setting is appropriate so that all participants feel at ease and barriers are not interposed. There are several alternatives, complementaries on occasions, for this purpose:

- Direct methods: personal interviews, focus groups, etc.
- Indirect methods: online or phone surveys (*Google Forms), social media, web-blog, mobile technology, etc.
- Innovative methods: entertainment, outdoor activities, sports, cultural outings or any other informal context that can engage the participants more naturally in the surveying process.

Your turn

Create appropriate questions around the key aspects. Remember to include some open questions on the objectives themselves, placed before the others, in an attempt not to influence the interviewees with your own views (a priori aspects) and so extract “raw” information that may contain hints to new uncharted aspects. If encountered, add these new aspects to the key ones. Then, choose (or ideate) the most appropriate consultation methodology for each principal stakeholder, taking into consideration its peculiarities so as to maximize your chances of obtaining objective information. Fill in table 13 - DGBP template.

4. Executing the consultation

Having the questions and the methodology ready, now it comes down to actually consulting the principal stakeholders following those surveys. In representation (although imperfect) of broad stakeholders such as society in general or the environment, as well as other specialized fields of particular interest for entrepreneurs (e.g. economical & financial plans), it is highly advisable to involve, if possible, experts on those matters (e.g. environmental consultants, sociologists...), simply because of accessibility reasons and for the sake of completeness of the survey.

Case study

AHLF Project 7

Good illustrative examples of surveys of this sort can be found in the “Responsible Business School Project” [Responsible Business School Project, 2010], a project intended to improve the social responsibility practices of business schools. A look at its website can provide with a good idea on how to determine the key aspects for the principal stakeholders (see section 2.3.1) and, from there, create the corresponding surveys to consult them.

Current students

* Required

What is your age? *

18-23 ▼

What is your gender? *

Male ▼

What is your country of origin? *

1. Are you aware of EOI's mission and vision? *

☐ Yes

☐ No

If so, please state where did you see/hear about it?

Website ▼

If other, please specify

2. From the following elements, please select the 4 most important ones, in your opinion, to be included in EOI's mission/vision? *

Select 4

☐ Excellence in education

Figure 2-7. Part of an online survey for the stakeholder "current students" of EOI Business School

Your turn

Proceed onto consulting your principal stakeholders using the surveys you just designed. A practical way of collecting and structuring information from surveys is by means of Google Forms [Google Forms, 2012].

Irrespectively of the consultation methodology utilized, it is convenient to collect all the information obtained and dump it into a single, structured database (spreadsheet), from which you should be able to generate on-the-fly stats. In this manner, you can carry out a phone interview with a potential client of yours, note down the responses on a classic notebook and then transfer it to the spreadsheet. Apply same procedure with the rest of your stakeholders.

Two useful types of questions to be used in these online surveys are those with gradable answers, where participants can quantitatively assess how relevant the key aspects are for them, and also the open questions, where they are given a high degree of freedom to express themselves.

5. Analysis

Once the surveys have been conducted, the next step comprises data mining, i.e. the compilation and analysis of the data collected. Generally speaking, as there is a semi-qualitative question (with numeric indicators collecting the answer) referring to every key aspect, and those aspects are common to all the principal stakeholders, you can take the average, aspect by aspect, and get what is called the **"relevance"**, a measure of how much aspects matter for the stakeholders overall or, in other words, their social value.

Your turn

Retrieve all the information from the various consultations, process it and deposit it in a suitable spreadsheet taking table 14 - DGBP template as a model:

Key aspect - Importance for STK 1 - Importance for STK 2 - ... - Social value or relevance

Make use of a Google Form if that helps you. Basically, it should contain the key aspects under consultation, the relative relevance values (e.g. from 1.0 to 5.0) each principal stakeholder has accorded to them, and the overall average per aspect (relevance), a measure of the social value they enclose.

Materiality graph: maturity vs. relevance

At this stage of the analysis, you have at your disposal two major pieces of information upon which to base your decision-making in terms of strategic priorities: the relevance (social value for the stakeholders) and the maturity (opportunities for innovation and differentiation in the sector). A simple 2-dimensional graph (maturity vs relevance, see figure below) will therefore serve us to analyze and assign priority levels to the aspects assessed (e.g. from 1 to 15, with 1 being the highest priority). With this graph at hand, depending on your character as entrepreneurs, whether more adventurous or conservative, we can lean your strategic decision making towards one area or another, or the 4 quadrants simplistically speaking:

- High maturity – Low relevance: aspects already considered in the sector but not very interesting for the stakeholders. Typically, these correspond to “artificially created” needs.
- Low maturity – Low relevance: nor the sector neither the stakeholders judge these aspects to be significant. However, sometimes, emerging aspects can be hidden here, either because of a consultation shortcoming or a small-but-growing magnitude within the entire sample. An intrepid, visionary entrepreneur may want to ride his or her luck and bet on a few of these aspects, hoping they will evolve towards higher relevance peaks, as awareness is raised and society changes patterns, ideally in the search for sustainability. Well-grounded intuition does play a major role at this point.
- High maturity – High relevance: these are the regular baselines in the markets or “must-haves”, i.e. the aspects regarded as important by the stakeholders and tackled by the majority of the organizations in the sector. A conservative approach will mostly focus on this area.
- Low maturity – High relevance: normally the one to go as it offers great opportunities for innovation on aspects that are eagerly demanded by the stakeholders. These aspects enclose an enormous potential for impact if properly addressed, being nonetheless rare to spot.

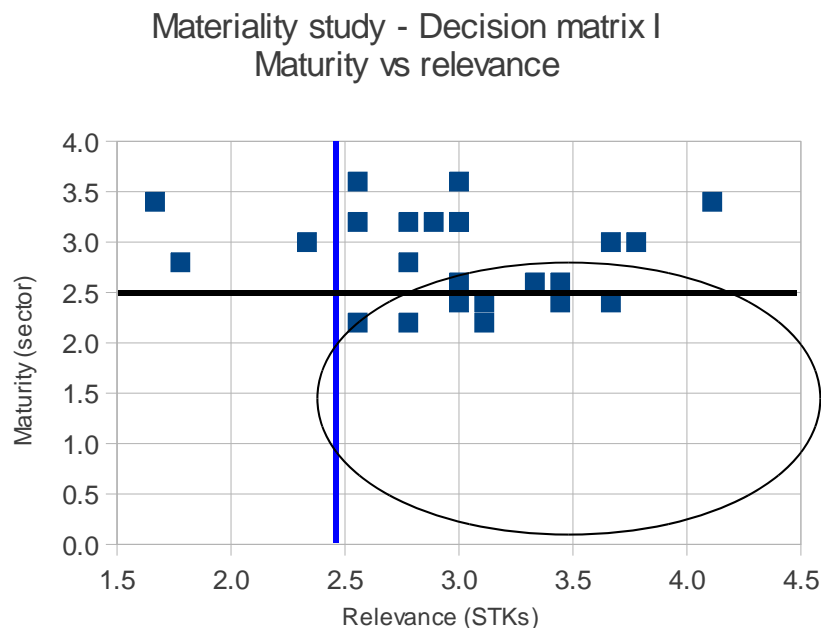


Figure 2-8. Materiality graph: maturity vs. relevance. Illustrative random example

The highest-priority aspects are called **material aspects**, with the priority level giving a sense of their “materiality” or relative importance with regards to their innovation potential and social value.

Your turn

Draw the materiality graph (maturity vs relevance) with the data from tables 11 and 14 - DGBP template. Then, based on your entrepreneurial character, decide on which area to focus and assign priority levels to aspects accordingly (e.g. use integer numbers with the lowest ones reflecting the highest priorities). Lastly, set aside the top 10-15 aspects - the “material” ones - and complete table 15 - DGBP template: Material aspects - Priority level

Stakeholder map and Potential Action Lines (PALs)

The next stage concerns the design of your Potential Action Lines (PALs), a prequel of your services/products. A PAL can be defined as a set of potential business activities (services or products) that occur among the same stakeholders and share common material aspects. The adjective “potential” is added just because they still have not been chosen for implementation, at this moment they only represent viable options.

PALs are outlined over what is called the “Stakeholder Map”: a chart depicting your principal stakeholders and the material aspects. The stakeholders are represented as dots of a network (thus without a center), and then the aspects are placed in the 2-dimensional space among them, their exact location determined by their relative relevance to each stakeholder (closer to those who consider those aspects more relevant. See the “stakeholder consultation”). For the last stage you need to draw on all your creativity and vision: by looking at the map, you delineate (literally) the potential action lines by encircling the actors (principal stakeholders) and material aspects that could make up the common substrate for a set of your business activities, usually around one or a few of your project's objectives. Each PAL should therefore comprise at least one beneficiary, the “receiver/s” of the potential services/products deriving from the line.

Speaking about impact, there is a straightforward way to appraise the “potential” impact each action line could generate: by summing up the individual priority levels of all the aspects encompassed by each PAL. This addition represents a relative estimation of the value (relevance for the stakeholders plus innovation potential) each particular action line could contribute with to the world.

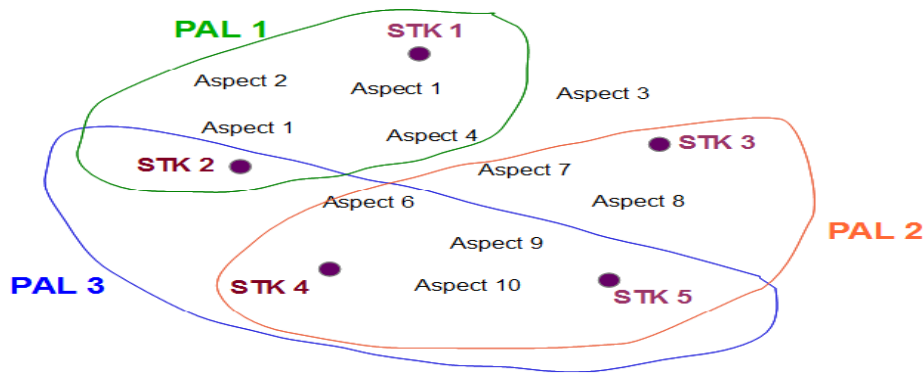


Figure 2-9. Example of a stakeholder map with 3 PALs drawn on it

Remember that...

No need to recall we are just referring to “potential” or “expected” impact at this stage. The real one should be directly measured during the operational phase of the project and then contrasted with these design-phase estimations in order to determine how strategic you are indeed being. If operating action lines comply with the predictions made, it will mean your strategy is working and you are having the impact you wanted to. Or, in other terms, you are making progress towards your mission/objectives. Contrarily, the whole strategy for the specific action line assessed will have to be reviewed. Periodically checking the impact of your operations in this manner will ensure long-term commitment to your goals.

There is nonetheless another variable to take into account when measuring impact besides your compliance with objectives, and that is the amount of resources being utilized in the process. So, in your regular check-ups, what you indeed must aim at is improving effectiveness, defined as the ratio of compliance with objectives over resources used. Later on, in the sustainability management plan (section 2.5.3), you will be dealing with the periodical assessment of effectiveness as a measure of your impact. At that time, you will be able to compare your strategic goals with your real outcomes (impact), the proper way to readjust yourself towards the strategic pathway.

Your turn

Draw your own stakeholder map. Then, delineate on it your PALs following the indications given. Try building at least 5 PALs (between 5 and 8) as, later on, you will be bringing that number down to more bearable figures for start-ups (3 or less), through other complementary analysis. Summarize the information contained in your map on table 16 - DGBP template, always referencing the PALs to your initial objectives, just to make sure we are on track.

To fill the last column of the table, the one relative to the potential impact of PALs, sum up the individual priority levels from all material aspect encompassed within a given PAL. Then, as always along this methodology, relative values have to be normalized to a scale ranging from 1.0 (low) to 5.0 (high).

PAL - Objectives addressed - Stakeholders involved - Material aspects encompassed - Potential impact

2.4.3 Strategic action plan

Having the potential action lines (PALs) characterized, now you can proceed with the last three analysis that will complete the strategic puzzle and allow you to define your strategic action lines (the so-wanted answer to the “what” question): the environmental assessment, strength analysis and economic and technical feasibility study. The goal pursued, as usual, will be to maximize the environmental value you are creating with your project, to focus on team’s strong points and to make sure the PALs selected are viable from an economical-financial and technical standpoints.

Environmental assessment: environmental value

As indicated, the purpose of the environmental analysis is simple: to magnify the positive environmental value you can potentially create in the world through your project. For so doing, you compare the different PALs with respect to their effects on the environment and select those yielding the best scores, i.e. best environmental performance or more positive environmental value created. Once again, these “expected” values will have to be validated during the operational phase, by measuring the real environmental impact of your actions.

Your turn

In order to assess the environmental value created by each PAL, compare them following the next steps and note your findings on table 17 - DGBP template:

PAL - Service activities - Effects on the environment - Energy and material flows - Environmental value

- 1. Think of the function each PAL fulfills, the activities involved and the ingredients needed (materials, energy, infrastructures...)*
- 2. Reflect on the effects each PAL may have on the environment. For guidance, go over the environmental part of the Sustainability Inventory (Annex I). The following questions may also shed some light on this matter:*
 - Does it provide benefits to the environment and society?*
 - Does it avoid an environmental (negative) impact?*
 - Does it change consumption patterns?*
 - Does it make a difference on the use of materials and energy?*
- 3. Create an inventory (a list) of the energy and material flows related to each PAL. For that, we need to consider not only the service activities themselves (e.g. our office, the energy we consume and waste we generate ...), but mostly their effects on the environment (e.g. changes in water consumption patterns of our beneficiaries, increase of quality in water bodies ...). These flows can be quantified if data is available.*
- 4. Based on the previous assessment, assign a relative environmental value (from 1.0 to 5.0) to each PAL. Higher values represent a more positive environmental value (better environmental performance) to be created through that PAL. Always bear in mind that this is just a qualitative analysis aimed at comparing PALs among them, in order to narrow down our choice by focusing on those with the highest likelihood of good environmental integration.*

Strength analysis: strengths

If you really want to be strategic and, most importantly, enjoy whatever it is that you do, we must concentrate your efforts around your strong points. In this sense, the analysis of the team's strengths is able to generate a map of those PALs with a high potential for action due to being linked to a sound area of competence from the team, where you are confident to act upon. By so doing not only you will be pursuing mister excellence, but also madame happiness.

Remember that...

Your so-called strengths, more often than not, coincide pretty well with your passions. It makes perfect sense of course as, generally, we want to dedicate ourselves to whatever fills our hearts, and thus we spend time and effort honing our abilities about it. Life, and entrepreneurship, being no easy matters however, sometimes it is wise, and even necessary, to take on alternative paths arriving at the same destination.

Let's put a sports analogy: if you are good at basketball, and basketball is what you like, then don't try to become a coach in football, firstly because it will not satisfy your basketball-hunger and secondly because most likely you will not be just as good. However, if, for whatever the reason, the opportunity arises to become a football coach at a university and that gives you the chance to enter the varsity sports circuit and gets you closer to your actual goal (coaching football), then go for it, of course. As long as you have your long-term objective clear, the rest is just matter of adapting to the situations encountered and finding strategies that help advance.

Examining and indentifying your strengths demands for an introspective analysis regarding each PAL, about your two main resources: your team (founders and/or executors) and your social capital (network of contacts and collaborators/partners). At this point, you are going to focus exclusively on the intangible assets the likes of skills, competences, technical knowledge, experience, know-how, etc. Later on, through the viability analysis you will look into more tangible resources such as economic-financial means or technology.

As a major novelty, we propose the reader to approach this audit of strengths with a fresh and positive attitude, as opposed to the rather negative view inferred by the traditional SWOT analysis (Strenghts, Weaknesses, Opportunities and Threats), as deduced simply by the terminology it utilizes: "weaknesses", "threats", etc. As entrepreneur and start-up project, let's focus on what you do well, your innovative vision, your differentiation opportunities, the know-how of your collaborators, and positive aspects around those lines, rather than whether your "competition" is going to copy you and "steal" market share, the crisis is going to wipe out your potential target customers, etc. Needless to say you need to be aware of your limits and areas for improvement (more appealing term than "weaknesses"), but only to be able to flip the coin over and turn them into opportunities and strengths via positive thinking and smart strategies.

Human capital: the team

Probably the main asset a project of any kind can have is its human resources, the founders and/or main executors. Their capabilities and commitment determine to a great extent the outcome of the project.

Remember that...

Undertaking a project is always and in every case a demanding and daring adventure. That is an unquestionable given you, entrepreneur, find out sooner or later in your career. Every entrepreneurial venture demands great amounts of effort, time, money and/or other resources from its undertakers. Some more than others, but they all do. In such circumstances, you need to be well prepared and equipped to battle through and eventually prevail. Preparation can come under the form of knowledge, experience, contacts and/or capital, but it always requires a mandatory gluing ingredient: commitment. If there is no commitment from the part of every single one of the project's founders and main executors then, at some point or another, it will drift away and irremediably get lost in the immensity of the ocean. So before anything else, make sure everyone involved shares openly his or her intentions with respect to the project and thus her or his commitment towards the rest of the team. If commitment is the end, transparency and good communication make up the way.

Experience tells that, as an overall rule, the project's founders should not just be financial investors that are contributing exclusively with money, but should get involved in greater depth and play a major role in the daily operations. In this manner, on the one hand you will be avoiding imbalances among founding partners, especially when it comes to the venture's initial stages where great doses of hard work are required in exchange of little money, a risk only founders, and not badly-paid employees, should take. And on the other, this approach guarantees the founders' commitment and engagement with the project as they participate in the day-to-day decision making and their salaries depend on its well functioning.

Your turn

Contrary to common practice, start by assessing what does your project, as defined by its mission and objectives, require in terms of intangible assets from its human resources: skills, competences, etc. Then, evaluate what you do have (current team) and, by mere contrast, you will get what is missing or needs work on or external help (see "social capital" next).

As of the assets you do possess, reflect on your internal intangible strengths as a team (founders and/or executors), and derive a list of strong points along each potential action line (PAL). Think of your core skills and competences, technical knowledge, experience, know-how, soft skills, etc., both as individual team members, including yourself, and as a group. Fill in table 18 - DGBP template.

PAL - Intangible assets required - Intangible assets possessed (team)

Social capital: networks of contacts and collaborators

Imagine you do have a very committed and skilled team, is that enough to achieve your mission and attain your objectives? Most certainly not. We live in a challenging world where complex problems (social inequalities, loss of biodiversity, injustice, ecosystems imbalances, war, Climate Change, etc.) occur on a global scale and demand for innovative, knowledge-rich solutions only to be developed by multidisciplinary teams working through collaborative networks. Strong implications follow.

The way we work, or co-work, is no longer self-centered in-house but out-sourced ("crowd-sourcing") to society through your networks. Financial means are not just the exclusive territory of large investors; small, distributed sources are popping up and filling the void. We are moving towards a new socio-economic fabric as we speak: from large entities seeking to grow and increase gains (capital, land, power, you name it), to people-and-planet-focused human-scale units (families, friends, micro-organizations...) working collaboratively (co-creating and sharing resources and risks that is) in networks, stands as a key factor for social interaction and thus happiness.

Remember that...

Connections are the key. Contacts can get you anywhere; they become your partners, clients, collaborators, your source of knowledge, complementary skills, and so much more. So build your networks and your business will come along. The larger and better quality your social capital, the bigger your chances to succeed, both in the business world as in life. It is the Inverted Maslow's Hierarchy of Needs: if traditionally you ought to meet your most basic needs first in order to move up in the pyramid towards the more socially oriented ones, now, what we are proposing is to concentrate on building your networks as it is through them that you will get a job, find shelter, and eventually feed yourself and survive. In reality, the two perspectives (the regular and the inverted pyramids) merge, one leading to the other in a never ending double-headed Chinese dragon, and so you have to do tackle both at the same time: the socialization and the individual basic needs.

Your turn

Same drill for your social capital. Complete the last two columns on the right of table 18 - DGBP template by enumerating your main collaborators (or potential ones) and their core intangible assets, especially those that complement your team's.

Lastly, in view of the internal (team) and external (networks) evaluations you just conducted, combine in a single relative figure (from 1.0 to 5.0, as usual) your capacity to address each PAL, i.e. your strength (value) regarding that PAL.

*PAL - Intangible assets required - Intangible assets possessed (team) -
Intangible assets possessed (social capital) - Strength value*

Economic-financial and technical feasibility: viability

Once you have put together the potential action lines (PALs) of your project where you have the highest capacity for innovative, positive impact on your stakeholders and the environment; now comes the time to conduct a business analysis in order to determine their feasibility, from an economic and technical standpoints, and accordingly select the most viable ones. Just as a remark, these are just feasibility studies that provide us with qualitative information to take strategic decisions. The actual thorough economic & financial plan, where business predictions and calculations are made, will come later.

Economic feasibility

As of the economic perspective, you are going to look at PALs from two complementary angles: on one hand, the amount of economic resources needed to put in practice those PALs, and on the other, the business potential they enclose. Economic resources can take the form either of cash or in-kind assets like equipment or facilities. The business potential concerns the ability to generate income in a variety of forms that substantiate the principles of good business (democracy, responsibility, sustainability and humanity):

- Monetized capital.
- Distributed sources: "crowdfunding" or distributed micro-finance via a mass of small contributors.
- Exchange of services ("barter"): exchange of services with other stakeholders (beneficiaries, clients, collaborators, etc.).

Remember that...

Linking with previous thoughts on the importance of social capital as well as with the "Principles of Good Business" (section 2.2.2), we strongly encourage collaborative networks, distributed business models and exchanges of services both as means and ends on themselves. They aim to democratize the business world and empower individuals to pursue their own dreams in the most imaginative and innovative ways possible.

"Be the change you want to see in the world", Mahatma Gandhi used to say. "Educating somebody through our own example is not a good way of doing it, but the only one", Albert Einstein preached. In your case, it means that your business, and in turn yourself of course, has to be the mirror-like reflection of the kind of society you want to live in. If that is a democratic, just, human and sustainable one, so it has to be your project.

Those two dimensions combined account for our definition of "economic viability or feasibility": business potential per unit of resources utilized ("business performance" in a way). High economic viability therefore implies an efficient business model able to generate big flows of income with few resources. It is, as we understand it, a continuous relative variable (e.g. from 1.0 to 5.0) and not a binary threshold ("viable" vs "not viable"), thus suitable for the purpose of comparing PALs among them in order to take on the most viable ones.

Financial feasibility

A robust business model means not only having the necessary economic resources at your disposal, but having them timely. The “time” dimension is often forgotten or underrated in both the entrepreneurial and business worlds, when, especially for entrepreneurs and start-ups, it should indeed be considered a top, if not “the” factor in every decision-making process. Two aspects in particular come to our mind at this point: liquidity (cash flows) and initial investments. In this regard, when comparing PALs, you are obliged to foresee, roughly at least, what is going to be the initial investment required for each of them, the cash flows (liquidity of income vs that of expenses) and the financial mechanisms available in case of need (loans, private investors, etc.).

Remember that...

When initiating a venture of any kind, you always need to have various backup mechanisms in place as a safe network to protect you against uncertainty (see section 2.1.2). A compelling way to visualise it is to think of the entrepreneurship process as a vehicle taking its fuel (hydrogen, not petrol) from two reservoirs: one of cash and the other of emotional drive. As of the former (cash), you need to make sure you dispose of enough savings to cover your team's living expenses for a sufficient amount of time (typically a year, at least, but project-dependent). Regarding the latter, it is highly advisable to be mentally prepared for toughness and keep a healthy work-life balance at all times.

The long and bumpy road ahead is going to demand from you not only to start up with those two tanks well loaded, but also to come up with a refilling method that keeps the balance right, that is to say a regular source of income the likes of in-time paying customers, a job on the side, etc. And, meanwhile, what you really have to aim at is finding and implementing a functioning business model that turns your idea into a financially self-sustainable project before you run of funds and forces.

Technical feasibility

Alongside the economic-financial feasibility, comes the technical one. It deals with the specific knowledge and know-how demanded by each PALs to be implemented successfully. If the technical expertise is not found within your team or pool of collaborators, then it may constitute a so-called “barrier to entry” unless you can externalize it (subcontracting for instance) without compromising your quality or characteristic style.

Your turn

Analyze the PALs resulting from previous studies in terms of their economic, financial and technical feasibility, taking into account the subtleties explained. Fill in table 19 - DGBP template:

PAL - Economic feasibility - Financial feasibility - Technical feasibility - Viability

As usual, summarize the evaluation of each dimension via a quantitative figure ranging from 1.0 (not very feasible) to 5.0 (very feasible). In the case of technological resources, for instance, “very feasible” may mean that not much technology is necessary or that the one needed is well within reach (e.g. open-source software).

Lastly synthesize those analysis in a single figure (viability) by taking a simple (arithmetic) average, or a weighed one if you want to consider the various dimensions differently.

Strategic Action Lines (SALs): putting it all together

The last stage of the strategic planning brings together all the pieces built so far and determines with the final choice of action lines to be implemented: the Strategic Action Lines or SALs. Those will, in turn, shape into your strategic services and/or products (section 2.5.2) that will characterize your project or organization.

The selection procedure revolves around the joint maximization, taking into account the weights pre-allocated in the “strategic mix” (section 2.4.1), of all the strategic factors analyzed: innovation potential, social and environmental value, strengths and viability. The overall idea being to render your choice of action lines as effective as possible in terms of the positive impact it generates while being economically and technically viable. Strategic priority levels are assigned to PALs in accordance with their strategic potential (outcome of the mix). The so-sought-for strategic action lines (SALs) are simply the top PALs in this strategy ranking. Visually speaking, a spider diagram - strategy graph- translates this breakdown into a 5-axes (the 5 strategic factors) area maximization, easing the decision-making procedure in the process.

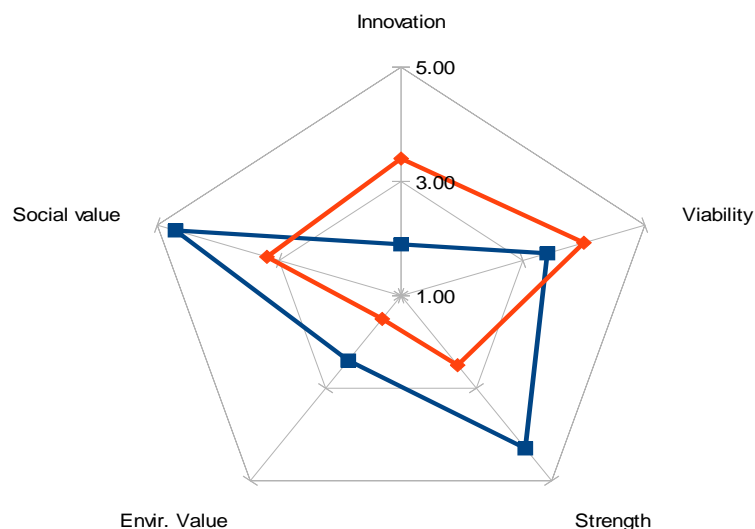


Figure 2-10. Example of strategy graph for two action lines (red and blue)

No more than 3 SALs are recommendable for start-ups, otherwise their field of focus would be too wide and, given the usually scarce initial resources, chances are the project may diverge and eventually go wrong.

Your turn

Adhering to the procedure explained, reflect here the outcome of your *strategic analysis, including the resulting SALs (top 3 strategic PALs) and the strategy graph. Use table 20 - DGBP template:

PAL - Innovation - Social value - Environ. Value - Strength - Viability - Strategic potential - Strategic priority level

*Remember the strategic mix set in section 2.4.1: innovation %, social value %, environmental value %, strength %, viability %

Remember that...

A single strategic action line can encompass multiple services/products. For instance, imagine a SAL of yours is “training for entrepreneurs on green business model development”. This line can take concrete form through several types of service like: 1-day on-site workshops (“Introduction to business models for green entrepreneurs”), 2-week online course (“Tools to green business modeling and inspiring success stories”), 2-month blended program (“Develop your own business model step-by-step and guided by our experts”), etc.

2.5 HOW? Implementing the project

Up until this point, you have defined your project's mission in response to a problem or need spotted in society, identified the actors that play a role in that endeavor, and co-designed with them the best strategy to reach for those objectives by providing innovative solutions that maximize the social and environmental value created, focus on your strengths and ensure economic and technical viability.

Now, it is time for action. You should move from your catalogue of strategic action lines (SALs) to a comprehensive workplan that details your daily functioning. For so doing, first you are going to ecodesign your SALs to make sure you not only create environmental value in others but also set the right example to follow by greening your own business. Then, you will work out the best business model that transforms the environmental and social value generated into tangible cash flows and/or exchanges of services. Next, you will focus on the way you manage your day-to-day operations by outlining a dashboard that will allow you to monitor progress towards your objectives (measure impact) through the proper set of environmental, social and economic indicators. Your business carefully designed, you will then try to take your project to the next level by boosting your stakeholders' participation from all possible angles (as beneficiaries, collaborators, clients, providers, investors...), via smart communication, marketing and engagement initiatives. Afterwards, as a synthesis, you will sketch a plan that specifies each and every one of your actions along the different departments explained: the operational plan. And lastly you will decide on the most adequate fiscal and legal forms to adopt so as to fit best the business or project you have just conceived.

2.5.1 Ecodesigning your action lines: "greening" your business

The aim of this part is simple: to re-think and re-design your strategic action lines (SALs) in order to render them as environmentally friendly as possible (Ecodesigned SALs or eco-SALs). In other words, we invite you to *green* your project, seeking to integrate it as smoothly as possible into the environment, both at the local and global level. There is no better way to lead the green revolution than by example.

Your environmental blueprint concerns two phases then: the maximization, during the strategic design stage, of the environmental value you create in the world around you; and the greening of your own internal behavior. A thorough description of this greening procedure is to be found in [Module 3, section 3 \("Ecodesign of product-service systems: step-by-step methodology"\)](#), which we eagerly recommend going through before proceeding. It basically consists in analyzing each SAL from a life-cycle approach, identifying the critical aspects where there is more room for improvement from an environmental standpoint, and devising intelligent strategies to advance on those areas. The implementation of those strategies will lead to the output of this methodology: your ecodesigned SALs (eco-SALs) or, from now onwards, simply action lines.

Your turn

*According to the method described in module 3 - section 3, **ecodesign** your own SALs and summarize the outcome conforming to the pattern given (table 21 - DGBP template):*

SALs - Critical environmental aspects - Strategies for improvement - eco-SALs (action lines)

2.5.2 Drawing your business model: mapping connections and visualizing flows (Business Model)

Your eco-SALs (let's call them from now on just "action lines" for the sake of simplicity) under the arm, we now turn to conceptualizing the business models behind your action lines that rend their implementation viable. Viability understood widely, i.e. in terms of cash flows but also of social interactions among the stakeholders. The overall idea is to optimize and balance the flows of value (social, environmental and economic) that take place among the actors involved in each action line.

The technique you will put in place to design your business model combines a visual map of your stakeholders and the flows among them with a quantitative approach aimed at balancing those flows and estimating the amounts (or units) of value, service and monetary capital that are transferred. As seen in section 2.4.1, the chronological order you follow in this process is vital as it leads to a new vision of sustainability (figure 2-4): money comes last as a metrics of the real value (social and environmental) created.

Business Model

The ethical framework set, now it is all matter of materializing your strategic action lines into concrete services that embody the principles of good business, maximize the social and environmental value generated and translate it all into a robust business model. The technique you are going to follow for this purpose is a visual one. We invite you to draw your business model, literally, as a diagram on an empty canvas, looking to understand how the value flows among the stakeholders, optimize those flows and then construct appropriate services that are able to transport that value in an sound economically viable manner.

Remember that...

Other visual methods to generate businel models exist like the well-known and widely-used Canvas [Canvas, 2012]. We eagerly recommend you to contrast these two approaches and take the best-fitting lessons from each, considering their important differences, mostly regarding the philosophy behind them: in our case, we see the business model as a tool to generate vehicles (services/products and monetary flows) that transport social and environmental value; as opposed to the "traditional business" view where the monetary analysis comes first and the social and environmental dimensions are only dealt with later, as added, optional components (e.g. corporate social responsibility or environmental impact assessment).

You will make a separate picture (different business model) per action line (Eco-SAL). Well, two pictures indeed per line, sketched in a particular order: first one for the flows of value (diagram 1), and then another one for the services and the monetary exchanges that come with them (diagram 2). By splitting the overall picture into these two components you will be able to grasp better the two major concepts intervening: balanced contribution/retribution pairs (or sinks and sources of flow lines), and the services and monetary flows as vehicles of value. Back to the drawing, you should, first, place the principal stakeholders that intervene in the action line as dots of a grid (a stakeholder map again).

Remember that...

This is probably one of the defining moments of the whole methodology, the one that holds the key to a truly viable project. For that matter, you need to pay special attention to ensuring your business model is balanced in the way value is exchanged among stakeholders.

If a particular stakeholder contributes with a lot more value to others than what it gets from them, sooner or later this imbalance is going to show up and potentially ruin the whole action line and eventually the project. So make sure the contribution/retribution pairs are balanced, which in visual terms refers to the total width of flow lines coming in (to a stakeholder) equalling the total width of low lines going out. If for some reason you are not able to achieve this, it probably means you have overlooked some stakeholders that should be part of the action line. Other possibility could be that you may have not considered flow lines that carry value between two stakeholders through a third one. Sometimes complex relationships of this kind are required to make models work (see next example), although you must keep in mind that complexity can sometimes lead to difficulties in the execution.

Then, in order to understand how value flows among the stakeholders (picture 1), we join them (dots in the grid) with multidirectional arrows (flow lines), accompanied with small legends on the side telling about the main features of the value exchanged. The width of the flow lines accounts for the amount of value exchanged (the thicker the more value).

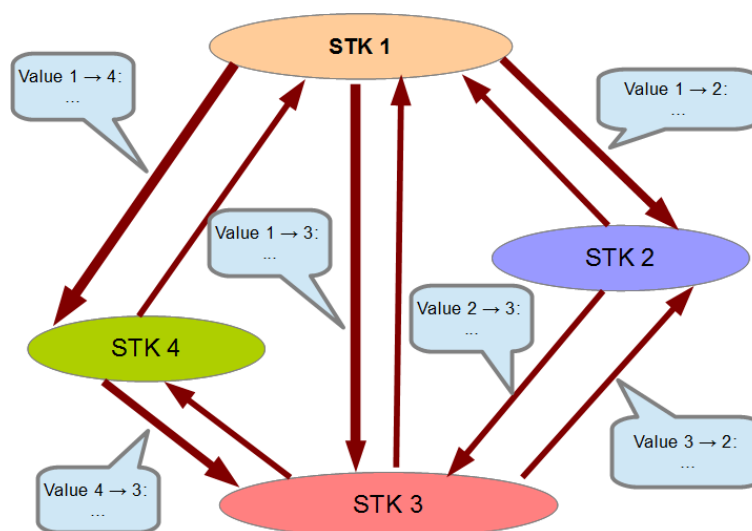


Figure 2-11. Example of flows of value (business model - diagram 1)

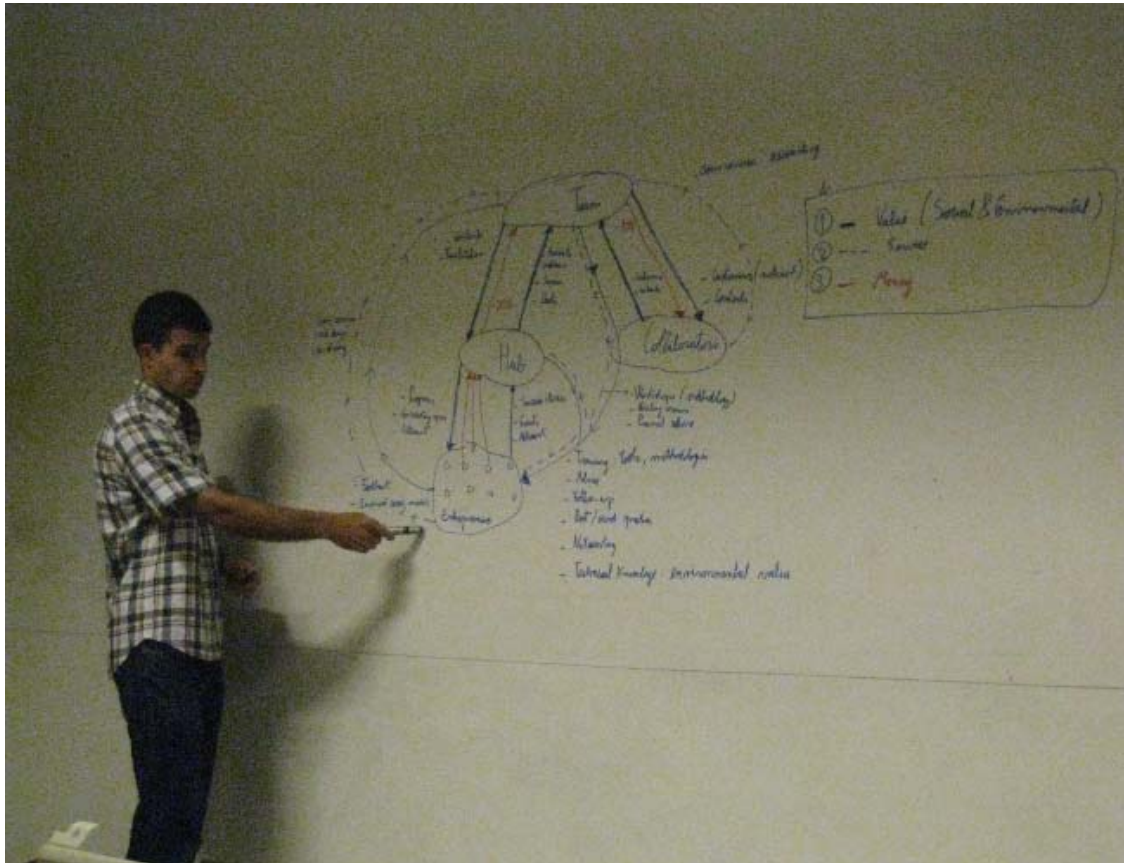


Figure 2-12. Business model for the “training for green entrepreneurs” action line of Emprendae [Emprendae, 2012]. The depicted stakeholders are, starting from above, the “team”, a “hub” (organization that has access to wide communities of entrepreneurs), “collaborators” (Emprendae’s partners at delivering this service) and the “entrepreneurs” themselves

Case study

Emprendae 1

The previous figure shows Emprendae’s business model for the “training of green entrepreneurs” action line. The truth is this model was not always like this and, as time shown, it needed modifications to actually be viable. At first, Emprendae tried to reach to its potential customers (entrepreneurs) by the sheer and blind force of its own marketing capacity, and that of its collaborators. However, two factors were proving this model to be cost-ineffective and resource-consuming in the sense that it required so much commercial work from Emprendae (e.g. time publicizing trainings on the social media) that it rendered everything unfeasible for the insufficient fees entrepreneurs were willing to pay in exchange for those services. Something was clearly missing in the picture.

On one side, Emprendae was just a start-up entering the market and so not very well known yet, a limiting barrier to both reaching a large-enough pool of potential customers and convincing them to give its services a try. On the other, the entrepreneurship sector was just exponentially growing in Spain at the time, driven by the necessity of the country’s 5 million unemployed people to create themselves a job given the inability of existing companies to hire any more workforce. As the demand for entrepreneurial resources (advising, training, networking, etc.) skyrocketed, so did the number of initiatives (private and public) trying to meet the demand.

Emprendae this evolving situation meant two things: the need to differentiate itself with respect to those growing number of same-sector providers ("competition" in traditional terms), but also to find a reliable partner that would help getting a hold of its target clients. The first issue was addressed by focusing on a niche where Emprendae's strengths (knowledge, experience and contacts basically) shone brightly: green entrepreneurship. The latter was sorted by the realization, in time, that a key stakeholder was missing in the business model: the "hub of entrepreneurs". This category encompasses organizations or places where entrepreneurs go, work or are to be found; including business incubators, universities or business schools, co-working spaces, online communities (like websites for freelancers or sites specialized in online-trainings on business skills), etc. This stakeholder was able to reduce stress on Emprendae's marketing efforts as it itself had easy access to large communities of entrepreneurs. The added value exchanged is straightforward: Emprendae fills the hub's services with quality contents aligned with its own vision and strategy (trainings on tools for green entrepreneurs), the hub does the marketing for Emprendae and the entrepreneurs benefit from the extra-services the hubs brings into the equation (rooms and equipment of the training, virtual platform for the online sessions, etc.) A clear "win-win" situation.

Subsequently, we copy the same stakeholder map from diagram 1 (without the flow lines) to diagram 2. On it, we sketch, via multidirectional arrows again, the services/products that substantiate the action line by carrying the flow lines displayed on diagram 1, as well as the monetary exchanges that take place to complete and balance the whole process. In the ideation of those services/products you need to contemplate several aspects, namely:

- They have to be able to transport as much of the previously-identified value (diagram 1) as possible.
 - They need to be deliverable to your target. This refers to technical or technological matters, timing, logistics, or anything that has to do with the services' feasibility to reach its target in a viable and effective way as well as in the format the beneficiaries prefer.
 - If services are the vehicle for value in one direction (contribution), then something else has account for the value coming in the opposite direction (retribution) that balances the exchange. That payback element can either take shape as services as well (exchange of services or "barter") and/or monetary capital. A good combination of both is advisable. This is the time when you set your prices (fees you are going to charge for your services) through a mixed procedure that allows you to both use money as a metrics for value (Economy of Value, section 2.5.3) and yet cope with the reality of the predominantly market economy you still live in by finding a compromising mid-point. A price per unit of service/product (working hour, single product...) is recommended for the sake of comparing impact potential through price tags:
- In the beginning, you will just fix your prices via market mechanisms, i.e. by looking at similar services delivered by alike organizations in analog contexts (similar operational "costs"). A slightly sub-par price, compared to the market's average, may be required to launch proceedings, but only so as

you do not intend to differentiate yourself by dumping prices, much on contrary, by providing quality value and getting a fair reward in return.

- Progressively, little by little, as you make a name for yourself and are able to demonstrate impact (the realization of the value, quality, innovation, vision and the whole package of differentiation factors you have dealt with), then you can start adjusting the price towards the quantity predicted by the Economy of Value so that it better reflects the true nature and magnitude of the value you are generating on your stakeholders and the planet as a whole. To make sure the value you estimated during the strategic planning stage is as close to reality as possible you need to conduct feedback surveys on your delivered services so as to know what is the true impact they have on your beneficiaries, and then adapt your strategy accordingly if necessary, always seeking to optimize the pursuit of your objectives.

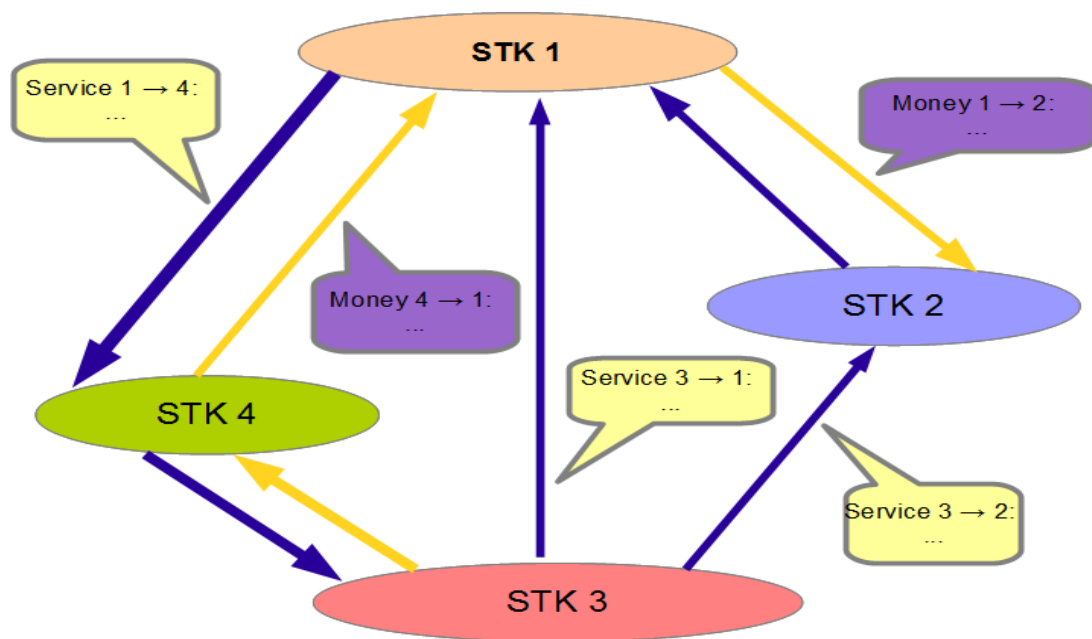


Figure 2-13. Example of services/products and flows of monetary capital (business model - diagram 2)

Remember that...

At this point, you need to take into account all action lines your project comprises if you are to attain global viability. Because even if one of them compensates the transfers of value entirely via service exchange mechanisms, you may not be able to do that for every other action line, and neither should you as liquid cash will most likely be capital for your project at some stage or another. This is especially the case for start-ups in their first months (years even) of operations, where money may take some time to flow in (making sales is not an easy job out of the blocks), while regular expenses will always be there (rent, food, utilities, etc.) To make up for this make sure you design a compendium of services that are as liquid as possible. And that is going to imply coming up with payment methods that are convenient for your clients while guarantee you a timely flow of cash to cover your costs. Plain and simply, ponder the time variable into the design of your services.

Case study

Emprendae 2

Completing the previous example (Emprendae's flows of value for its "training for green entrepreneurs" action line), we now portray the exchange of services and monetary capital that materialize the line's business model. Typically, this line comprehends three types of services: online trainings, online advising and on-site workshops. All of them are integrated into the hub's official training program for entrepreneurs (let's say for illustrative purposes a social innovation co-working space like the Hub Madrid [Hub Madrid, 2012], within the Hub International Network [The Hub Network, 2012], and so they directly benefit from its marketing initiatives touching on a wide community of entrepreneurs (more than 400 members in Madrid and various thousands around the world in the online case) that possess the characteristics Emprendae is looking for (sustainability awareness, entrepreneurial projects that focus on maximizing social and environmental value, etc.), thus matching its target suitably.

The hub's marketing strategy encompasses an open blog (where all members can post), a dynamic use of social media, viral videos, mailing lists, etc., as well as notices spread around the physical space. From Emprendae's end, they just amplify the hub's reach by redirecting its messages through their own channels. This way, instead of producing their own communication materials, they just make reference to the hub's official ones, taking advantage of its prestige and good reputation in the sector to convey trust to their potential customers. This sort of "representational sponsorship" supposes a major asset for new organizations just seeing the light of day in the sector and thus still little known. Customers make purchases grounded to a great extent on the confidence the seller inspires in them (human beings in general we are trust-driven).

As a matter of fact, partnering with an established organization is a smart way to overcome the trust barrier. The "big guy" takes a risk (relatively low given the size of its business) by betting on the up-and-coming "small guy", but if the shared project is innovative and properly addresses the needs of the community (see the strategic factors), then they may both rip the rewards, not to mention their beneficiaries. This is in fact a common case with entrepreneurship centers, which do not usually offer quality training or advising programs to their members. A small, flexible company can sneak in and wonderfully provide these services as a subcontractor, as long as its areas of specialty match the needs of the center's community of entrepreneurs.

Talking about sharing risks, these kind of spaces usually rent their rooms for a fixed rate, another potential barrier-to-be for Emprendae launching its first programs, as it has to face this fixed cost up-front, not knowing whether it will summon a sufficient amount of clients to break-even. This can be solved by negotiating a deal with the hub so that, instead of working on regular renting tariffs they do it on commissions, with the hub getting a percentage (say between 10 to 30%) on the income generated by the program. Besides eliminating the up-front payments, this commission-based strategy ensures maximum commitment from the hub's side as it is in their interest that the programs succeeds (the more entrepreneurs taking part the bigger its profits). And that makes wonders for the marketing campaign for instance.

As of the online training and advising services, by putting at the disposal of Emprendae the Hub's powerful and tested virtual platform, they are avoiding a gigantic and surely out-of-reach initial investment (and associated risk) from Emprendae's side. The hub may just want to make sure the contents of the training are appropriate and attractive for its audience, and for that a pilot free session can be envisaged.

Regarding the setting of prices, if the hub allows for this sort of pilot tests, a trial-and-error procedure can help to, first, estimate the real size of the demand within the community, and then determine the right price. Drawing from a real case, Emprendae organized a first on-site 4-hour workshop at the hub in order to gauge the interest from the community. The price was fixed at 45 euros and after a 10-day advertising period and several discounts for early booking or bringing additional participants (see engagement initiatives in section 5.4), 10 customers made the buy (the full capacity of the room). The rate was slightly below the average market price for a workshop of that nature and duration, but it fulfilled its mission of introducing Emprendae and its services to the community, analyzing their response and checking on the price variable. Speaking about responses, a feedback consultation was carried out on-site right after the workshop, by email and through an online form, obtaining a very positive outcome that reassured Emprendae on its belief that they were indeed hitting the spot: meeting the needs of the green entrepreneurs targeted.

From there, the word of mouth started to do its magic and the members began to appreciate the value Emprendae could provide to them as shown in the feedback. This allowed for a raise in the price (10-20%), aimed at rewarding more accurately this value.

Needless to say, Emprendae's collaborators (the 4th stakeholder involved in the line) played a vital part all along the process, completing its competences and knowledge in specific areas like ecodeign or financial plans, as well as given an important hand with the marketing campaign through their own networks (30% of the customers came this way). On the negative side, the direct return of investment was logically narrower (more mouths to feed), but the advantages largely exceeded this minor drawback (better quality of contents, more trainers per entrepreneur, personalized attention, increased publicity, etc.); resulting in more added value to the beneficiaries, better reputation and wider word-of-mouth reach for Emprendae and its collaborators.

As of the distribution of the wealth generated, Emprendae's policy towards its partners is to get a 20% share of the total income collected (to account for the communication/coordination efforts and taxes), and the rest is equally distributed among the participants on the basis of each one's contribution to the project (usually measured in working hours dedicated to the project), converting once again value into monetary retribution.

All considered, this is a fitting example of how the flows of value among the stakeholders of a certain action line can be transported by real services rooted on the principles of good business, on a demonstration of how the Economy of Value(s) is not just an utopy that leads our way, but a smart strategy that pushes differentiation and innovation forward towards a more sustainable, human and fair socio-economic model.

Your turn

Time for your creativity and artistic skills to take over. But do not worry if you score low on those categories, the method proposed adds sufficient structure to the recipe so that, all the previous steps rightfully completed, a viable business model will be attained in most cases. So, inspired by the examples given, draw your business model (section 2.4.2 DGBP template), following the two-stage process explained:

- Picture 1: flows of value
- Picture 2: services/products and flows of monetary capital

Remember that...

If, for whatever reason, a good-looking (high likelihood of viability) business model does not want to come out of the drawing, two looming possibilities need to be checked in this order:

1. The action line analyzed may only make sense in the presence of other action lines from our catalogue, meaning even their business models may be intertwined to the point where only global, and not individual, viability may be reached. If you sense this may be the case, you will have to sketch a bigger picture comprising the various interdependent action lines and examine them together.

2. The whole entrepreneurship process will have to be reviewed from the beginning (see figure 2-1 on the cyclical vision of entrepreneurship), posing yourself some questions around the following lines (take it as a review checklist and complete it yourself):

- **Mission and objectives:** does your idea really tackle a need/problem? What is the evidence of the problem?
- **Stakeholder identification:** are you missing a principal stakeholder in this action line?
- **Sustainability inventory:** have you pre-selected relevant a priori aspects?
- **Sector benchmarking:** have you properly identified the leaders in the sector? Are you checking the right sources?
- **Stakeholder consultation:** are you formulating the right questions? Are they biased? Objective/subjective? Are there some aspects hidden in the open questions' responses that you may have overlooked? Are you using the right consultation methodologies? Do your interviewees feel at ease? Are they being honest?
- **Environmental value:** have you truly chosen the most impactful environmental aspects? Have we skipped some?
- **Strength analysis:** are you, or your partners, really strong on the aspects selected? Is the team really committed? And what about your collaborators?
- **Viability:** are the technical/technological complexities too burdensome? Does the action line really offer some sufficient business potential per unit of resource utilized? Is it really subjective to be harnessed? And efficiently delivered? What about the initial investment required? Or the cash flows: is the action line's potential business model sufficiently liquid or are we going to run short on cash?
- **Strategic action plan:** are you putting together all the necessary aspects to form the action lines or are you missing key ones? Are action lines interconnected (point 1)? And their business models?
- **Environmental assessment:** is it rightfully carried out? Have you spotted all the critical points? Do the strategies for improvement make sense?
- **Business model (diagram 1 - flows of value):** is the value identified being properly channeled among the stakeholders? Or are you missing some connections (single or multiple) among the players? Maybe even forgetting important stakeholders? What about the thickness of the flow lines: are they correct? Are the pairs contribution/retribution well balanced for all actors?
- **Business model (diagram 2 - services/products & money):** are you being able to transport all the value created by means of services/products or money? In both directions? Are those services efficiently deliverable? Regarding rates and tariffs, are we applying the Economy of Value's mechanics properly and getting the prices right in accordance to their equivalent value? Have you properly determined the market price for the launching rates? Or maybe you did not find or focus on comparable (context, operational costs...) projects to draw the market information from? Is sufficient cash being generated? Are you measuring the real (impact) value we contribute with adequately through the feedback form? Are you putting into practice a smart strategy to allow you to move closer to the value-set price?

Service catalogue

From the business models just designed to the end product you will be offering -your catalogue of services/products- there is only a minor step left to take: to quantify the information coded in the pictures and structure it into a table (*table 22 – DGBP template*). In this regard, a service/product is entirely characterized by its parent action line (Eco-SAL), concerned stakeholders, potential impact and rates. As of the stakeholders, they can be splitted into several categories:

- Beneficiaries: those stakeholders benefiting from the impact of the service/product.
- Potential clients: those beneficiaries that are indeed willing to pay monetary fees (or other services) for the given service/product.
- Collaborators: people or organizations (real ones if already known at this stage) that could help you developing and offering each service/product.
- Other stakeholders concerned, involved somehow in its life-cycle.

Remember that...

A single action line can enclose multiple services/products that share the same principal stakeholders and key aspects, and just differ in their format and delivery methods (different “wraps-up” or “flavors” to the same main dish).

To make matters simple, each service/product is going to bear the same potential impact as its parent action line (see table 20 - DGBP template) Then, once in operational mode, this estimation can be refined and converted into real impact by analyzing the feedback obtained from the stakeholders (particularly the beneficiaries). In any case, remember this measure of impact is, as usual, a relative figure per unit of service for the purpose of comparing services and assigning fitting rates.

Same scenario for the rates, they are just monetary quantities, per unit of service, proportional to the potential impact each service/product carries. At this point we want to distinguish between initial rates (launch price calculated by market mechanisms) and the intended ones in the medium to long term (Economy of Value's predictions reproducing the potential impact).

Your turn

Drawing from your business model portrayed on the precedent pictures, complete your service catalogue by filling in table 22 - DGBP template.

Action line (Eco-SAL) - Service/product - Beneficiaries - Potential clients - Collaborators - Other stakeholders concerned - Potential impact - Initial rates - Intended rates

All comprised, you now have your service catalogue well polished and ready for implementation: a compendium of the services/products that materialize your mission/objectives in the most strategic manner possible, i.e. account for the demands of your principal stakeholders (social value), seize innovation opportunities in the sector, generate positive environmental value both externally and internally, feed on your major strengths, stand as viable solutions economically and technically speaking; and do it all through a sound business model that ensures your services/products transport as much value as possible (maximal potential impact) and are rewarded (rates charged) with the just amount of cash and/or other services/products (exchanges). Now, you are ready to take off!

2.5.3 Managing your business (Sustainability Management Plan)

At this point, your service catalogue under the arm, you are half the way ready to begin executing your project, that is to say delivering your services/projects (section 2.5.2). Obviously, before that, you need to set up a management plan (the purpose of this chapter) that will allow you to monitor and control your operations; then, make sure you indeed reach out to your beneficiaries via an effective marketing & communication plan and, lastly, in compliance with all the rest, decide on the most appropriate fiscal and legal form to be applied.

A management tool, in general, serves for planning and administering the resources and flows of a given project. Adding the Principles of Good Business to the equation, you will obtain the "sustainability management plan", an integrated set of tools that, as a whole, provide the entrepreneur/professional with a methodology to run and manage her or his project from an economical, social and environmental perspective ("sustainability balance"). Concretely speaking, it takes the form of a 3-dimensional dashboard made up of a series of strategic managerial indicators deriving from your project's key aspects (section 2.4.2). Consequently, when properly assessed over time, this analytical tool presents an overall picture depicting the state of the project at each moment and, most importantly, the real **impact** you are indeed having on your stakeholders along your objectives, a key factor for re-adjusting your strategy on the road to improvement. It comes third in order on the entrepreneurial process, right after the strategic action plan and the business model.

Remember that...

The "strategic indicators" that compose the sustainability management plan are measurable variables that quantify how the key aspects, related to the strategic action lines (see strategic design process in section 2.4), are being tackled or, in other words, if the project, in operational mode, is in fact contributing positively to addressing the issues linked to those aspects.

Seeking to impose some logical order, we link the managerial indicators to the key aspects and structure these around the project's objectives they are related to. This way you will be able to assess your impact not only aspect by aspect, but also for each of your objectives (the definite strategy-guiding mechanism). Furthermore, besides the indicators themselves, each dimension of the management plan also comprises:

- **Measurement techniques:** methods and procedures to take measurements.
- **Desired range:** the adequate interval (minimum – "sweet point" – maximum) where the indicators should take value in order to have a positive environmental impact along their associated aspects.
- **Current status:** current value of the indicator at the date of analysis.
- **Margin for improvement:** indicates the distance between the current value and the sweet point, providing an idea of how much and in which direction (increase or decrease) you have to improve your project's performance regarding the aspect assessed.

- **Strategies for improvement:** given the margin for improvement just calculated, you should set a series of strategies (possible scenarios), translated by concrete measures, to be put in place in order to improve the current situation and approach the ideal one (sweet point). Together with the strategies themselves other relevant pieces of information to include comprise:
 - An estimation of the budget required to implement each strategy.
 - The time scope in which to apply the strategies: urgent, short, medium or long term.
- **Contingency plan:** how-to guide describing the possible courses of action to take when indicators get out of range take in order to restore normality. It is vital to remark at this point that this management tool is not specifically conceived to deal with critical aspects that can bear largely negative implications, even danger or emergency. This can be the case, for instance, of some environmental aspects (e.g. the use of toxic components) with potential to trigger human or natural health crisis if things go wrong. In such situations, the best and most-recommended approach is to fit our indicators into internationally standardized management systems like ISO 14001 [ISO, 2004] or ISO 9001 [ISO, 2008].

On top of this detailed chart, a compelling way to visualize your environmental performance can be achieved through a **management graph** that scrutinizes each thematic area, for the given sustainability dimension, on a given date, taking the average of all the aspects within it, in terms of the **real impact** you are having on your stakeholders, the margin for improvement and the corresponding budget you allocate to it. A way to express impact can simply be achieved by comparing the current measured value of the indicator with its ideal one (sweet spot): if you are on target it means you are having a high impact (between 3.5 and 5.0), whereas if you are way out of range it means you are probably not having any desired impact whatsoever on your stakeholders (a low 1.0).

Specifically on the **budget** (seen as an investment), it is an estimation of the economic means needed to manage each thematic area, i.e. run and control its dashboard: taking measurements, executing strategies for improvement, etc. Always taking into account the other two factors mentioned –margin for improvement and impact–, as you should invest more resources on those areas with high impact and high, while feasible, margin for improvement.

Environmental management plan

Entering into the environmental realm, the goal of its corresponding management plan is to measure your project's environmental performance through a series of relevant indicators. Those indicators should take origin in the aspects (major environmental effects of your project) resulting from the environmental assessment of the project's strategic action lines (section 2.4.3). The inventory provided is structured around thematic areas such as the following:

- Air and climate
- Land / soil
- Water
- Biology
- Mineral resources
- Energy

Your turn

Building on your project's key environmental aspects identified during the environmental assessment stage (section 2.4.3), construct the environmental part of your managerial dashboard (sustainability management plan - environmental dimension), and place it on table 23 - DGBP template:

Indicator - Environmental aspect - Thematic area - Related objective/s - Measurement technique - Desired range - Current status - Date of analysis - Margin for improvement - Strategies for improvement - Contingency plan

Based on that table, draw an environmental management graph (spider diagram), intended to portray the project's environmental performance when in operational mode, along each thematic environmental area. For so doing, first proceed to fill in table 24 - DGBP template:

Environmental management graph:

Thematic area - Real impact (by area) - Margin for improvement - Management budget

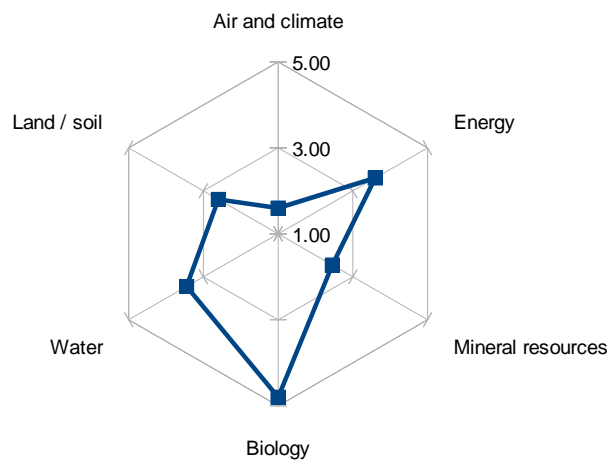


Figure 2-14. Example of an environmental management graph with 6 environmental thematic areas

Social management plan

Much like its environmental counterpart, the social management plan represents an integrated tool to manage your project from a social standpoint, seeking to improve your services (and thus the value you create) to your stakeholders by measuring and understanding their satisfaction levels with regards to the social aspects they brought forth at the consultation (section 2.4.2). As usual, for data collection purposes, those aspects are shaped into quantitative indicators (managerial social indicators), and sorted into thematic areas such as:

- Health and well-being
- Labor practices and decent work
- Communication
- Education/training
- Cultural and leisure activities
- Work-life balance
- Diversity and equal opportunity
- Motivation
- Leadership
- Management
- Transparency
- Human rights
- Community and social relations
- Public Policy

Remember that...

Measuring stakeholder satisfaction is all about knowing whether you are indeed contributing to better their quality of life and well-being by pursuing your objectives. As with any field study, the surveying methodology you use can determine, to a great extent, the validity/invalidity of the responses: if you are to avoid biases and random subjectivity you have to make your participants feel at ease and pose relevant non-directional questions as much as possible. The choice of the setting and methods is key at this point, with a variety of options available for each particular stakeholder: focus groups, personal interviews, online surveys, informal and leisure activities, etc.

Your turn

Building on your project's key social aspects identified during the stakeholder consultation stage (section 2.4.2), construct the social part of your managerial dashboard (sustainability management plan - social dimension), and place it on table 25 - DGBP template:

Indicator - Social aspect - Thematic area - Related objective/s - Measurement technique - Desired range - Current status - Date of analysis - Margin for improvement - Strategies for improvement - Contingency plan

Social management graph (table 26 - DGBP template): Thematic area - Real impact (by area) - Margin for improvement - Management budget



Figure 2-15. Example of a social management graph with 8 social thematic areas

Economic & financial management plan

Following our view on the interrelations among the three dimensions of sustainability (see figure 2-4), the economic one is only to be understood as the inner-most “virtual” sphere that acts as a collector of the social and environmental value generated. Accordingly, the economic & financial management plan has a triple purpose:

- To quantify in economic terms your project's value, through the Economy of Value(s).
- To manage your project from an economic & financial standpoint, measuring and controlling its financial needs and prospective economical flows through some “classic” business administration tools such as the investment plan, cash flows and income statement.
- To complete the 3-dimensional approach of sustainability management adding key economic/financial indicators to the managerial dashboard.

This vision implies a freshly new perspective that combines both the traditional approach and the Economy of Value's: it is not until the project's value has been translated into economic figures using the latter economy theory, that you should apply the classic tools mentioned.

A) Economy of Value(s)

The "Economy of Value(s)" is the name of a pragmatic economic theory whose aim is to properly measure, with money as the metrics (it is the existing one so you may as well use it properly), what really adds positive environmental and social value to the world. In this sense, the higher the value contributed with, the higher it has to be its monetary worth as well, in a proportional manner and without speculation.

Accompanied with the proper change of mindset (cheaper is not better and more expensive should not mean overpriced but better quality and more value), this economic revolution entails a shift towards more sustainable ways of living as it fosters locality, common good, sharing, confidence in one another, collectivity, simplicity, human relations, quality of life, taking time to enjoy, and all the principles of good business in general; as opposed to material gain, fast pace, long-distance commerce, self-benefit, individuality and so forth.

As a matter of fact, the application range of this theory conforms to one of the key values it promotes -locality-, in the sense that it is only valid at a local community scale, which is indeed the purpose sought for: "thinking global, acting local". Needless to say that what really matters about this theory is just the concepts and values behind it, whereas as a quantitative tool itself it stills needs refinement, to be achieved through reality check.

Remember that...

In any case, a way to compensate for the relative "newness" of this theory, is to, when launching a service/product, first use current market mechanisms to set its price and then, progressively, tend towards the Economy of Value(s)'s prediction as we demonstrate real impact and raise awareness on the principles of good business as a result.

The foundations of the theory rely on a relative comparison between pairs of interchangeable products or services: an element of the pair incarnating the principles of the Economy of Value(s), and the other the opposite ones. As the human brain works in relative terms, this comparison allows the user to spot the differences between these two products or services as to which one adds more positive value to her or him, the rest of the stakeholders and the world at large, and convert it into monetary worth proportionally.

Case study

Pairs of interchangeable products/services

The pairs of interchangeable products/services at the core of this theory have to comply with certain desired characteristics such as the following examples:

Pair 1: *local product from ecological agriculture, traded fairly and consumed within its natural season vs foreign product from industrialized agriculture, traded unfairly and consumed off-season.*

E.g. Valencian orange from an ecological cultivation (if living in Spain) vs banana from a distant country and a massive plantation.

Pair 2: spending holidays at home (or nearby) with family and friends, taking walks in the wild to observe and learn from nature, taking time to talk and do things together vs holidays trip via a low-cost airline, to a distant resort built right on the beach, with no respect for the environment, alone with the single goal of obtaining short-term entertainment or “pleasure”.

E.g. Christmas (2 weeks) at home with the family and strolling in the nearby mountains vs Christmas (same 2 weeks) at a beach resort in southern Taiwan.

Keep in mind that these pairs of services/products do not refer to your own; they are just generic products or services that depict the local economy where your project is going to operate and thus it will base its economic exchanges (and rates) on.

As explained, the quantifiable part of the theory attempts to, first, measure the value each product/service from the pair adds to the world and then translate it into monetary terms accordingly. In order to properly assess the value created (VC), you need to consider the different scales and stakeholders that come into play along the entire life cycle of each product or service:

- **Personal VC:** value it adds to yourself (quality of life).
- **Local community VC:** value it adds to the local community where the product/service is delivered and/or produced (ideally, both locations will coincide in a local economy).
- **Environmental VC:** value it adds to the environment, both at a local and global level.
- **Average VC:** the total value the product/service creates, calculated as the average of all the previous components and the normalized to a single unit of service/product.

Remember that...

An important remark must be made nonetheless: not everything can, and nor must it, be quantifiable in economic terms. Some intangible values characteristic of the human race, nature and life itself are simply invaluable and cannot be compared or weighed upon any unit of value whatsoever. The life of a person or a natural ecosystem is clear example of invaluable resources yet of infinite worth. It is pointless and extremely dangerous in fact to try to put a price tag on such concepts.

Your approach in these cases must be qualitative, simply seeking to promote the respect and protection of life on Earth, with special but not exclusive attention to the humankind, just as it is expressed in the Earth Charter. The Economy of Value's realm concerns “things” (e.g. local oranges from Spain vs distant New Zealand kiwis) or “aspects” (water consumption vs impact on local species) that can be compared qualitatively in order to lean towards those who create more environmental and social value. It never deals with, nor does it attempt to, absolute amounts, especially with the concept of “value” and its magnitude being, after all, subjective. For our purpose of constructing a better world, we “just” need to take decisions in search of the common good, including future generations'; the precise amount of euros or units of value an organic tomato is worth remains irrelevant and incalculable.

Given the total value each product or service contributes with, you can now assign the right price (Economy of Value Price, or EoV Price) to it: the amount of monetary units you (the beneficiaries surveyed indeed) would be willing to pay for it in exchange of the average VC that product/service yields, escalated by the amount of product you are dealing with.

And, finally, you find yourself in position to estimate the key parameter of the theory: the conversion rate (CR). The CR encloses in a single figure (with the obvious limitations this implies) the values (see the "principles of good business") inherent to the philosophy behind this economic theory. It is computed product by product as the ratio between the price (EoV Price in monetary units) and its value created (in units of value). And then averaged for the entire lot of products/services appraised for your local economy. For the sake of accuracy and relevance, a valid CR will require conducting a survey on the prices/values for each pair of products/services, among a sufficiently large (statistically significant) amount of members of the local community. The CR therefore allows you to use the metrics of money to measure and encourage what really adds positive social and environmental value to the world, and so we are going to be applying it (see next section) to the conventional methodologies used in classic economic & financial plans.

Your turn

As a synopsis of the local economy of value to be fostered by your project, run a survey in your local community on the price/value people would assign to the products/services from the two pairs proposed in the example above. Remember to first ask about value and then price, so as to guide people through the thought process of associating price with value created. Plug the resulting numbers in table 27 - DGBP template, and then take averages to calculate the conversion rate parameter.

Product/service - Personal VC - Local Community VC - Environment VC - Average AV (units of value) - EoV Price (monetary units)

Conversion Rate (CR, monetary units/units of value)

B) Classic economic tools: investment plan, cash flows, income statement and loan amortization

The classic approach to the economic and financial plan constitutes an exhaustive methodology to amount the investments and foresee the financial flows your project is going to generate and be subject to, across its different stages. This view into the future represents in itself a powerful tool to:

- Analyze the economic and financial viability of a business idea.
- Plan and manage your project's resources in harmony with the economic flows, thus providing you with a good managerial decision-making mechanism.

Concretely speaking, through the different tools cited, you can estimate the initial investments required to launch the project, the cash flows for the coming years (with a 3 to 5 years period recommended) and the income statement. Nonetheless, in order to achieve sustainability, both internally to the project and as a global goal, this approach has to be integrated with the perspective offered by the Economy of Value(s). This is achieved by plugging into the "traditional" economical-financial spreadsheets (investment plan, cash flows, income statement and loan amortization), the rates you established for your services/products via the Economy of Value (EoV prices). But only after a certain transition time in which you make use of regular market rates until you are able to demonstrate your real impact (value created) on your beneficiaries, then you can start shifting those prices towards the Economy of Value's.

The prices of your services/products well determined (with the variation over time proposed), you can now forecast the sales and expenses that come with them, given your knowledge of the market and your own capacities. The whole purpose of this analysis being therefore to guarantee the viability over time of your project's value contribution/reward balance as measured in economic terms.

Remember that...

Before getting into the tools, a few fundamental concepts need to be clarified:

- **Initial Investment:** it includes the items (goods and rights) needed to start a business activity, as well as the cash to cover payments during its first months of operations.
- **Fixed costs:** those costs the project will have to assume on a regular basis regardless of the volume of activity, such as the rent of an office for instance.
- **Variable costs:** those costs whose amount varies depending on the volume of activity the project may have: the higher the level of activity, the higher the variable costs, and vice versa. A typical example can be beverages at a bar/restaurant.

For the purposes indicated, the main economic and financial analytical tools we recommend to utilize (see references [US Securities and Exchange Commission, 2012; US Small Business Administration, 2012; Investopedia, 2012; Practical Spreadsheet, 2012; SCORE, 2012]) comprehend:

1. Investment plan

It assesses the total investment needed for your project to launch proceedings, distinguishing between the financial capital you do have at your disposal (equity) and the amount that must be borrowed (loans), in order to calculate the debt the project incurs in.

2. Cash flows

The cash flow is a representation of the movement (flow) of income/expenses that will take place in your business during its operations. This information is critical as it allows you to appraise the requisites of liquidity -cash- you will be needing in the short, mid and long term.

In relation with the cash flow, the following fundamental economic indicators can be calculated:

- **Profit margin:** it indicates the ratio of profits earned from sales over variable expenses. In case you do not have variable expenses, the profit margin will be 100%.
- **Break-even point:** it forecasts the point in time where economic viability is reached, i.e. revenues (sales) equal expenses (costs). In other words, it shows the amount of sales the project should make to cover all its costs, both fixed and variable, thus resulting in a null profit. Below that point the project generates losses and above it, profits.

3. Income statement

The income statement or result account informs on the profits or losses obtained at the end of each year of operations. All considered, the result of the exercise will be the difference between the forecasted revenues and the expenses. This outcome will be on the profit or loss side depending on the sense (plus or minus sign) of the balance. From this figure (PBT: Profits Before Interests and Taxes), you have to deduct the interest you have paid for the loan (in case there is one), and lastly the share of taxes.

Moreover, the result account deals with the concept of economic depreciation, which reflects the depreciation on the value of an asset over time. It is important to perform this calculation, simply because nothing lasts forever and the properties, equipment, and other tangible assets you have acquired to implement your business, do lose value over time. It is precisely this loss of value which is to be reflected in the result account. To calculate it, you must take into consideration the asset's (useful) life time.

4. Loan amortization

The last tool -loan amortization sheet- refers to any loan you may have borrowed, for the initial investment or other financial needs, and its amortization rates. Its data are automatically derived from the specific conditions of the loan obtained: interest rate, repayment period (term) and the total amount borrowed.

An example of a loan for a start-up project could involve a total amount of \$4,000, a 7% interest rate and a repayment period (term) of 60 months (5 years), resulting into a total monthly reimbursement fee of around \$80.

Your turn

In the references provided, look for templates (spreadsheets) of the following financial sheets that conform a classic economic and financial management plan:

1. *Investment plan (table 28 - DGBP template)*
2. *Cash flows (table 29 - DGBP template)*
3. *Income statement" (table 30 - DGBP template)*
4. *Loan amortization (table 31 - DGBP template)*

Complete them exhaustively using the monetary rates established at the business model design stage: the initial rates for the launch phase (regular market prices), and the "intended" ones (EoV prices) from a certain point in time you may consider onwards (when you are able to demonstrate real impact), e.g. the second or third year of operations (section 2.4.2 - table 22 - DGBP template) LASTLY, PLACE THE MAIN OUTPUT TABLES FROM those sheets as annexes to the business plan (tables 28 to 31 - DGBP template).

C) Economic-financial managerial aspects

Making ends meet with the other two sustainability dimensions, you summarize the previous economic & financial analysis ("classic economic tools") into a few key (internal) managerial aspects (*), and then extend it to encompass the economic impact you have on your stakeholders via other managerial aspects (external) from the sustainability inventory (annex I). All in all, the most relevant economic/financial aspects usually fit into within the following wide thematic areas:

- Classic economic & financial analysis (*)
- Exchange of services
- Collaborative & distributed business models
- Ethical finance
- Locality
- Green economy
- Other principles of good business

Remember that...

() Captors of the fundamental conclusions from the economic & financial classic analysis (B), the following aspects stand directly as key indicators [US Small Business Administration, 2012; Investopedia, 2012] of our economic/financial performance:*

- *Solvency*
- *Stability*
- *Economic profitability*
- *Liquidity*
- *Equity*
- *Debt*

Do not hesitate nonetheless to use your own list of indicators that best fit your project based on these or other aspects.

Your turn

Looking at the lists given above of typical economic & financial aspects, construct your project's economic & financial managerial dashboard (sustainability management plan - economic & financial dimension), and place it on table 32 - DGBP template:

Indicator - Economical/financial aspect - Thematic area - Related objective/s - Measurement technique - Desired range - Current status - Date of analysis - Margin for improvement - Strategies for improvement - Contingency plan

Economic & financial management graph (table 33 - DGBP template): Thematic area - Real impact (by area) - Margin for improvement - Management budget

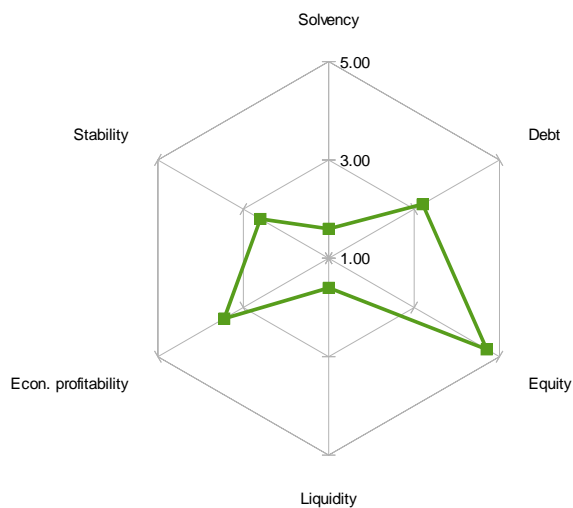


Figure 2-16. Example of an economic & financial management graph (classic variables)

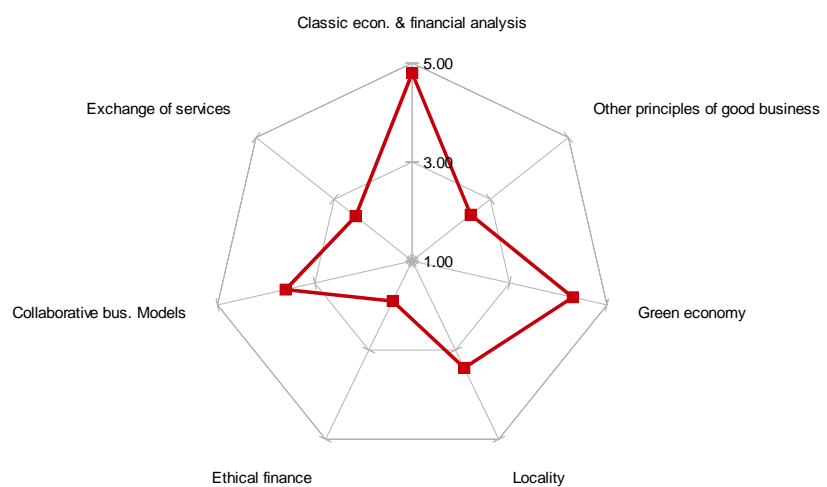


Figure 2-17. Example of an economic & financial management graph (all variables)

Sustainability management plan

Putting it all together comes the sustainability management plan, the “ultimate” management tool that integrates information from all the previous plans (environmental, social and economic-financial) in a sense so you can visualize the evolution over time (based on an prospective estimation of sales) of the sustainability balance. By “sustainability balance” we understand the give & get, over the three dimensions of sustainability, of value created (your project's contribution, i.e. its real impact) vs value received in exchange (retribution). Or, measured directly in Economy of Value's terms, revenues obtained from the services/products provided vs investments required.

At this point, we must highlight the fact that this holistic management tool does not substitute the classic economic & financial plan presented before. On the contrary, it offers a complementary vision: while the cited regular plan focuses on internal economic & financial variables (revenues, expenses, taxes, margins, profits, etc.), well suited for prospective analysis of economic flows; this one looks into economic and financial aspects from an external point of view (the stakeholders'), i.e. regarding the economic impact your project has on its stakeholders from a sustainability perspective. Once again, we are treating the economy as a tool at the service of society and the environment (figure 2-4).

In order to visualize the concepts introduced, you can construct two graphs that visually show the time evolution (on a characteristic three year basis) of the sustainability balance in economic terms (Economy of Value). “Sustainability balance”, or “net impact”, refers to the quantity “value created” (impact measured in monetary terms via the conversion rate parameter) minus the “value received” (measured through the real revenues collected). The difference between the two graphs is just the unit of analysis (sustainability dimensions or objectives):

Graph 1: Sustainability balance (t) – by dimension

It displays the evolution over time of the project's net impact on the 3 sustainability dimensions: social, environmental and economic-financial.

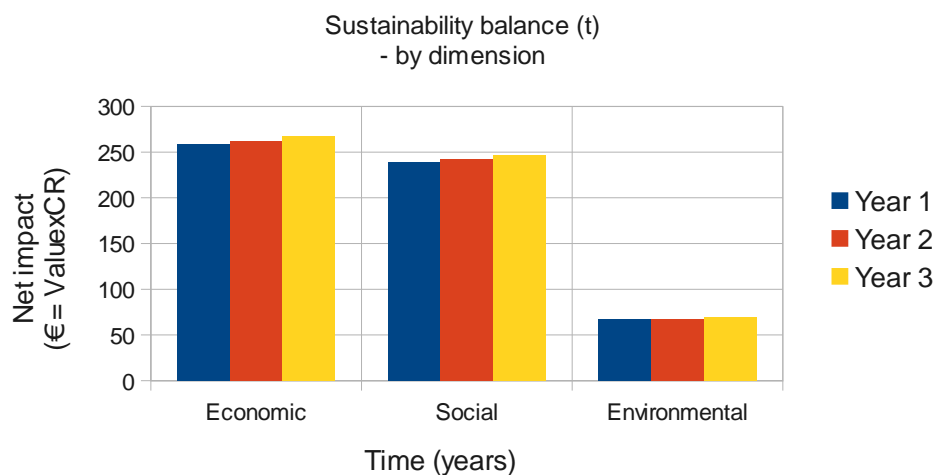


Figure 2-18. Example of a sustainability management graph 1 - by dimension

Graph 2: Sustainability balance (t) – by objective

Likewise graph 1 but with the focus on the project's objectives, in order to check your progress in tackling them.

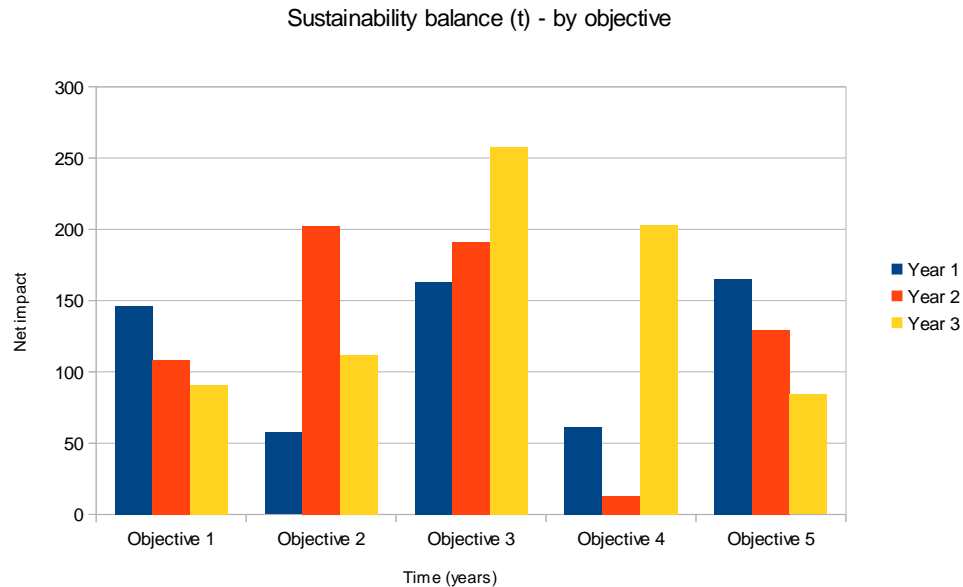


Figure 2-19. Example of a sustainability management graph 2 - by objective

Your turn

In order to see the evolution over time of the total sustainability balance (give & get) your project incurs into, build the two sustainability balance graphs described and place them in section 2.4.3 - DGBP template:

Graph 1: Sustainability balance (t) - by dimension

Graph 2: Sustainability balance (t) - by objective

2.5.4 Engaging your actors (Stakeholder engagement plan)

The stakeholder engagement plan constitutes the building fabric for the project and its business model as it brings it to life through the committed participation of the stakeholders. It can be regarded as a “next-generation” communication and marketing plan where the goal is to reach out to the principal stakeholders in a way so that they become as involved as possible in the project through a series of incentives proportional to their contribution.

Concretely speaking, once you have identified and understood the flow lines (value, services and money) connecting your stakeholders over the strategic services, you can now proceed on to designing a strategy to engage them in the project in a progressive manner, so as to maximize those flows. The idea being actually to blur the frontiers among the different categories of stakeholders in order to increase their participation and commitment to the project, in a way so as to magnify the value they generate to each other. In this sense, the procedure proposed consists in examining the flows of value stakeholder by stakeholder and thinking of an action plan to encourage each one of them to become part of other categories as well and therefore contribute to the project's objectives from various perspectives (human resources, service exchanges, financial means...) For instance, you want clients to become collaborators (win-win-win partnerships), media (publicity), and ultimately even investors.

A) Communicating your value: communication flows

Generally speaking, if the exchanges of value, services and money previously identified among the stakeholders are to be achieved, effective communicative interactions have to take place among them. That can occur under various forms: publicity, conversations, social media dialogues, live streaming, feedback forms, etc. Having this framework in mind, we are first going to conduct an exploratory evaluation to spot the bottlenecks that difficult the communication process, and thus the exchange of value, and ease them.

Remember that...

Prior to putting yourself to work on the design of the communication plan, you need to have another good look at the output from the business model regarding the exchanges of value, services and monetary capital (tables 20 & 22), seeking to facilitate and maximize those flows through good communication and appealing engagement incentives as we shall see later. At this point, we need to emphasize the fact that we are referring to all the dimensions of the value created by the project, i.e. social and environmental value, innovation, strength and viability, as summarized on tables 20 & 22

A major component (success factor indeed) of any project, especially of one with high potential for social impact, is its ability to reach its target audience and effectively get its message across. For that to happen a well-designed communication plan is a must-do.

Firstly, regarding your target audience, we are going to focus mainly on the project's principal stakeholders. Secondly, the purpose of the communication process will address the demands each principal stakeholder has as deduced from its consultation. And lastly, as part of the broader stakeholder engagement plan below, we will decide on the channels and tools that best fit the characteristics and demands seized, as well as the resources required for so doing.

Your turn

Much as in the business model, you can make use of the coming table to work out the multi-directional communication flows wished to happen among the principal stakeholders so as to facilitate the exchanges of value. This being an all-to-all table, with all the principal stakeholders both in rows and columns, the idea is to describe the cross-communication processes we want to occur for each pair (cell) according to their demands (consultation), identify the enablers and propel them.

Principal stakeholder (rows) - Principal stakeholder (columns)

B) The Pitch

To start communicating your idea, you might want to develop a pitch; a short overview of your solution that can be delivered on a minute. Developing a pitch helps make your idea clear and concrete. Your goal is to make it understandable by anyone, even people outside your business. A pitch will help you test the acceptance of your idea, and improve it. Moreover, when communicating clearly your solution through a pitch, it will help you find partners and people that can help you bring the idea to reality.

Pitching is about selling your idea, and this is something that you should do constantly, to everyone you meet. Do not miss the opportunity to test the validity of your assumptions. You might do this informally, as you meet people at social events, or more formally at event presentations or business plan competitions.

The pitch should include, at least, the following elements:

- For who is your solution?
- Why the current alternatives do not work properly?
- What is that you bring new/better/different

B) Selling your value: marketing strategies and campaigns

Once the communication flows have been enabled for the exchange of value to be optimal, we now zoom in our focus on to the one category of stakeholders that will make our business succeed eventually: the clients. In other terms, we want to design effective marketing strategies that turn communication exchanges into sales. The key here is being able to highlight the value the product or service provides to the user and how that is worth a certain amount of monetary capital proportional to the value received, as claimed by the Economy of Value. In other words, we have to try to make our clients perceive the actual magnitude of the value they are getting through your products/services. In this regard, we typically want to perform market segmentation in order to study the specificities of every type of client and adapt our strategies accordingly.

As stated previously, there are many formats and channels available to communicate and sell your idea. Although different in style, the format to sell an idea always follows a similar structure:

- a) Unique value proposition: this is a short sentence that defines what your solution does, and the perceived benefit for the customer. An example: Nokia, connecting people.
- b) Connect with the customer by defining the problem you aim to solve on his or her own terms. Ideally, you should have acquired a good understanding of your target customer on earlier stages. It allows you to define the problem as customers would define it.

- c) Present your solution. Express on a short paragraph how does your solution solves the defined problem and what is the final benefit for the customer. Your users are not so much interested on how the solution works technically, but what how benefits them (i.e. how it makes their life easier, how it help them to save time or money, or be more efficient). Also, you might list the top three features of your solution.

Your turn

Building on the previous table, design effective marketing strategies that turn the communication exchanges identified into sales. Lastly, decompose those broad marketing strategies into specific campaigns with concrete objectives, making sure you identify all the other stakeholders involved in the process.

Clients (rows) - Marketing strategies - Specific campaigns - Other stakeholders involved

c) Taking it to the next level: all-to-all engagement initiatives

So far, despite the innovative focus on value, we have been dealing with a rather-traditional communication and marketing plan. Now, however, we want to take a step further and foster more profound commitments from our stakeholders by using an incentives-based approach. This, indeed, constitutes the core of the stakeholder engagement plan: a series of participation-rewarding strategies seeking to maximize the contribution of the different stakeholders to the project.

The “all-to-all” philosophy, or the search for multidirectional and balanced flows of value, is about achieving participation and engagement from all the players involved in the project (the stakeholders). Everybody has to contribute with something and be rewarded proportionally and fairly (balanced “gives and gets”). That is the basis for the proper co-creation process (“crowdsourcing”) to take place and lead to innovation.

As mentioned, the idea here is to foment the participation of all the stakeholders so that everybody gets involved in your project and enjoys being part of it, to the point where they actually make it its theirs and so they are willing to contribute to the achievement of its objectives. The pivot to this process resides in building confidence among the project's participants, just because trust is the fuel of any sort of meaningful human relation. In this manner, the ultimate and most telling test to check on the trust built around the project is whether its actors would be willing to invest on it, be it through financial resources, time or others.

As explained, the goal of the stakeholder engagement plan is to make every single one of the project's key players “enroll” into as many stakeholder categories as possible. Hence a list of some of the key groups and their characteristics so that you can come up with a course of action (initiatives) to undertake in order to encourage everybody to join those important categories and thus maximize their engagement in the project:

- **Beneficiaries:** those who benefit from the project's objectives in some way.

- **Clients:** monetary contributors.
- **Providers:** service/product providers.
- **Collaborators:** co-developers and co-deliverers of your services.
- **Media:** transmitters and amplifiers of your messages.
- **Investors:** the “ultimate stakeholder”, those who trust your project the most and so are willing to invest their resources on it: capital, time, know-how, etc. If you are able to make every other stakeholder become an investor, then your project will definitely be bringing about some positive value and all will be worthwhile.

Creating Community

Successful entrepreneurial projects tend to capitalize on the needs of a defined group of people, provide a solution, and in most cases bring them together and be the platform for them to connect. Today, more than ever, it is relevant to build a community of people around your solution

1. Focus on your customer's needs. Focus on answering the question, “Why would consumers form a community around our solution?” rather than “How many people can we sign up?”
2. Foster many-to-many relationships. A solution community is not a one-to-many relationship. People need to interact with each other and not simply “the brand” if you want to create a successful brand community. Therefore, build peer-to-peer communication into your structure.
3. Think local. Online communities are great because allow to reach far and beyond your geographical area. However, there is nothing like face-to-face meetings. Organize local meet ups around the subject your solution is about.
4. Promote peer contributions and expertise. Celebrate expertise, experiences, and passion of your community. Find ways to cheer members who give a little extra.
5. Don't merely moderate, be the connector. Creating a community is more than providing a place for people to congregate. Create excuses for people to meet, connect, talk, and exchange impressions.

Your turn

Think of some of engagement initiatives and plug them in the following table, where the rows account for the principal stakeholders to be engaged, and the columns for the initiatives to be put in place in order for them to “join” some of the other major stakeholder categories regarding ways of participation: beneficiaries, clients, providers, collaborators, media and investors.

Stakeholder to be engaged (rows) - to beneficiary - to client - to provider - to collaborator - to media - to investors

Case study

Engagement initiatives

Typical yet potent engagement initiatives that many businesses implement include:

- *Offering discounts or even commissions on income generated, to customers for bringing additional customers. This would be a case of “from client to collaborators” type of initiative.*
- *Cross-selling a customer's service (from provider to media and partner).*
- *Complementing our services with those of our customers (from customer to collaborator and provider).*
- *Getting a provider to offer us access to facilities or equipment on a commission basis instead of per unit rates, thus sharing the risk with him or her of launching a new business line for instance (from provider to investor).*

D) Putting it all together: Stakeholder Engagement Plan

Finally, having understood and enabled the communication flows circulating among the stakeholders, designed effective marketing strategies to appeal and sell to clients, and laid out engagement initiatives that ought to be fueled for to get them involved; now it's all matter of putting all the pieces together to complete the so-called stakeholder engagement plan.

The end goal being to put the project's objectives into action in the most effective manner possible. A solid stakeholder engagement plan is therefore made up of three main interdependent elements:

- a) Communication flows
- b) Marketing strategies
- c) Engagement initiatives

Lastly, having the basis of plan well cooked and set, it is now vital to decide on the best communication channels and tools to be utilized, as well as accurately determine and quantify the resources (financial, human, social, etc.) that will be required for it to work smoothly.

Your turn

Detail your full stakeholder engagement plan in the following table (table 37 - DGBP template) by describing the communication flows passing through each principal stakeholder (either as emitter, receiver or amplifying intermediary), enumerating the marketing strategies and the engagement initiatives to be tried, as well as the channels and tools to be utilized and the resources they demand:

Principal stakeholder (rows) - Communication flows - Marketing strategies - Engagement initiatives - Communication channels and tools - Resources needed

Case study

Mediterranean network of green enterprises

Imagine we were to build a Mediterranean network of green entrepreneurs, aimed at providing them with resources and connections to maximize their chances of succeeding in their ventures. These could be the principal stakeholders of such project:

- *Local green entrepreneurs*
- *Local trainers*
- *Local partners and collaborators*
- *Public administration*
- *Responsible financial institutions: ethical banks, socially responsible investors, funds and business angels, etc.*
- *International collaborators*
- *International investors: European Union, Spanish Ministry of the Environment, etc.*

Then, by consulting such groups we determine that our communication efforts will have to address the following demands:

- *In the case of local green entrepreneurs, for instance, they could be looking for inspiring success stories, exchange of good/bad practices, an online community of fellows (contacts), training & advising, access to finance, etc.*
- *The public administration and the investors could, on their end, lean more towards gaining publicity from the display of the results achieved: number of green business created, employment generated, etc. And so forth.*

As of the channels and tools to be used, we choose the following:

- *An interactive website, including a social community of users, that will also be linked to a civil society oriented platform, thus bringing the two sides of the same green coin together: demand (aware citizens) and offer (green entrepreneurs).*
- *Audio-visual materials: pictures, videos, personal interviews, etc.*
- *Connection with the social media: Twitter and Facebook mostly.*
- *Besides, both the development of the strategic action plan and the actual implementation of the network will be recorded, all along the process, for the making of a **documentary** that will tell the whole how-it-was-done story in an act of complete transparency. Besides its clear inspirational and demonstration purposes, it will definitely serve as a powerful communication tool to publicize our activities, raise awareness on the matters dealt with, and spread the word on the new heroes of today: the green entrepreneurs.*

2.5.5 Operational plan

At this stage, the fundamental components of a good-business plan have all been properly addressed and developed and so you, entrepreneur, find yourself with the necessary tools in your hands in light of achieving your mission in the most strategic, responsible and sustainable manner possible. A few additional sections are still required nonetheless in order to be fully equipped for success the moment your operational launch comes, mainly the operational plan, the fiscal and legal form and the roadmap that sets the time rails to the whole project.

As of the operational plan, it basically comes down to thoroughly describing the procedures which your day-to-day operations (the implementation of your services) consist of. To make matters practical, those operations are broken down into concrete tasks, people in charge, stakeholders concerned, and time schedule.

Your turn

Drawing from your service catalogue (2.5.2), as well as the stakeholder engagement plan just developed, devises a complete operational plan to describe your daily actions as explained. Fill in table 37 - DGBP template:

Service/product - Tasks - Person in charge - Stakeholders concerned - Time schedule

2.5.6 Fiscal and legal form

Contrary to common belief, choosing a legal form for the project at the beginning of the entrepreneurial process is usually a bad practice as it limits and constraints substantially the way you can operate and organize internally as well as externally (with respect to your collaborators, clients, providers and so forth). Consequently, it is wiser to delay this important decision until a point where your services, relations with your stakeholders, business model and operations are all well set and clear. Then, the choice you make of the legal form, and the fiscal obligations derived from it, do represent an advantage that facilitates the attainment of your goals rather than an obstacle.

Some of the most common, and universal, legal forms include [Inc.com, 2012; Wikipedia, 2012]:

- **For profit:** freelancer, Limited Liability Company (LLC), cooperative [P. J. Honigsberg, B Kamoroff et al., 1991; E. G. Nadeau, D. J. Thompson, 1997], etc.
- **Not-for-profit:** association, foundation, etc.

Being specific to each country, we recommend you having a look to module 4 (resources) for a list of institutions that may shed light on the available fiscal and legal forms for your project.

Remember that...

The choice of the best-fitting legal form for your project does not necessarily have to be a definite, life-long decision. Even if you narrow it down to a single option that clearly matches your wishes, it could be the case that the requirements it demands are out of your reach at the time being, a typical barrier for starting ventures, and thus opting for a temporary solution should not be discarded, always keeping in mind the end goal notwithstanding.

A typical example of such alternative path-finding strategy can be that of a group of individuals that, to get things going for their business, they just establish themselves as a team of self-employed professionals (this figure refers to a specific legal form, check your country's peculiarities on its regard), working under the same brand. A domain name, registered trademark, logo, common bank account and shared fiscal obligations and they are ready to go. Then, whenever their common fund reaches the amount they need to cover the initial capital requirements of their desired legal form (say a cooperative or a limited liability corporation), they will be ready to take the next step knowing they already have a history together and even a decent pool of customers that indicate the move is a smart one. It is all part of the progressive approach we encourage you, as green entrepreneur, to take in order to minimize risk: take a relatively-cautious first step, analyze the outcome, improve, do it again, demonstrate success, scale up and move on to the next phase. Always remembering you only want to grow as long as the human scale is maintained, things are under control, you do not deviate from your mission and you are enjoying what you do.

Your turn

Note down (section 2.4.6 - DGBP template) the fiscal and legal form of your choice, justifying it in terms of its suitability to your project (as defined by all the plans previously designed).

2.6 WHEN? The Roadmap

Lastly, as a final step before embarking yourself in the adventure of implementing your project, company, organization, new line of activity within an existing project, etc., you need to tailor an in-depth road map to deploy it with three time scales in mind: short, medium and long term. Besides the regular milestones that separate different phases, it is vital to accompany this map with the suitable indicators and measurement techniques that assess your evolution in time and allow you to modify your prospects according to reality. A well-adapted tool for this purpose is the sustainability management plan (section 2.5.3), which includes a series of environmental, social and economic-financial indicators to be checked over time and compared to their desired range of value in view of the project's sustainable balance.

Your turn

Frame your project's projected progress in a comprehensive roadmap that specifies the following information (table 38 - DGBP template) for three different time horizons (short, medium and long term) depicted as rows:

Short / medium / long term (3 rows) - Phase name - Time span (# months or years) - Goals - Main activities - Milestones - Indicators - Desired range of value - Measurement procedure - Person in charge

Module 3: Ecodesign and Ecoinnovation

This module aims to green your business idea by means of ecodesign, that is to say, the incorporation of environmental protection strategies throughout its whole life cycle. The starting-point for the ecodesign process is the strategic action line(s) that has/have been defined in module 2 (section 2.4.3. *Strategic action plan*). Thus, after the strategic optimization of the innovation potential, social and environmental value, strengths and economic/technical viability of your project idea(s), it is the time to make it/them greener. Once you will have ecodesigned your strategic action lines, you will be able to go on with the business module.

In this module, we introduce the fundamentals of ecodesign together with a toolkit of ecodesign strategies and environmental assessment/communication tools. Nevertheless, the aim of these parts is to contextualise and support the most important contribution of this module: the step-by-step methodology (section 3.3) to ecodesign the strategic action lines, no matter if they are based on products or services. So it's time to innovate and green your project!

3.1 Ecodesign fundamentals

3.1.1 Environmental prevention: change of paradigm

Throughout the past century, people all over the world have recognized that human activities have contributed to the deterioration of the environment and to the loss of natural resources. Within recent decades though, we have witnessed a paradigm shift from pollution control (the so called “End of Pipe” thinking) to pollution prevention strategies.

The shift from pollution control (focusing on the impacts of the production in factories) towards global environmental prevention considering the product/service throughout the whole life cycle is seen as being positive for both environmental and economic reasons. This change of paradigm is certainly useful to tackle with the goals of the current conventions for the protection of the environment, such as the Basel, Rotterdam and Stockholm ones.

3.1.2 Industrial ecology and Life Cycle Thinking

Industrial Ecology is a discipline that can be defined as: *‘a systematic and integrated way by which an industrial system is viewed not in isolation from its surrounding systems, but in concert with them. It is a systems view in which one seeks to optimize the total materials cycle from virgin material, to finished material, to component, to product, to waste product, and to ultimate disposal’* [Graedel and Allenby, 1995; Jelinski et al., 1992].

The principal objective of industrial ecology is to understand how the industrial society works (including all aspects of human activity) and what its interrelations with the biosphere are, with the aim of reorganising the industrial system so that it evolves towards a mode of operation that is compatible with the biosphere and is sustainable over the long-term. Therefore, it tries to answer questions such as *‘why would not our industrial system behave like an ecosystem, where the wastes of a species may be resource to another species?’* or *‘why would not the outputs of an industry be the inputs of another, thus reducing use of raw materials, pollution, and saving on waste*

treatment? Thus, industrial ecology is at the base of the change of paradigm towards more sustainable lifestyles.

Remember that...

The discipline of industrial ecology gets inspired from nature (how it works, what relationships between organisms exist, how efficiency is achieved...). Thus, it tries to incorporate its basic principles into industrial systems (understood as those systems existing in current industrial societies, including services, agriculture, manufacture, transportation...)

Life Cycle Thinking seeks to identify possible improvements to goods and services in the form of lower environmental impacts and reduced use of resources across all life cycle stages. The typical life cycle of a product or service begins with raw material extraction, followed by design and production (manufacture), packaging and distribution and use and/or consumption (plus maintenance). It ends with reuse, recycling of materials, energy recovery and ultimate disposal (Figure 3-1).

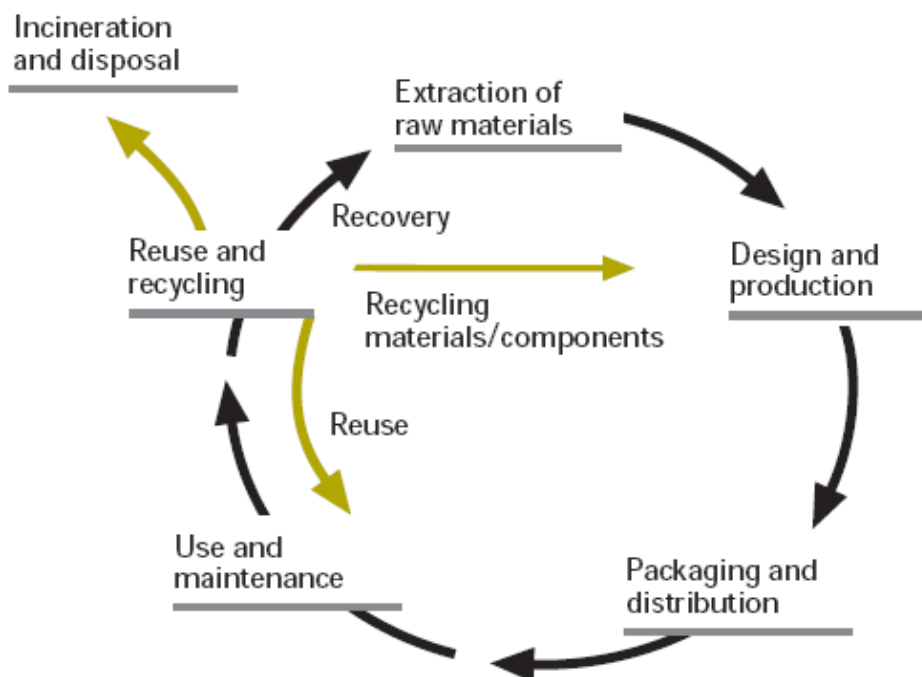


Figure 3-1 Typical life cycle stages of a product

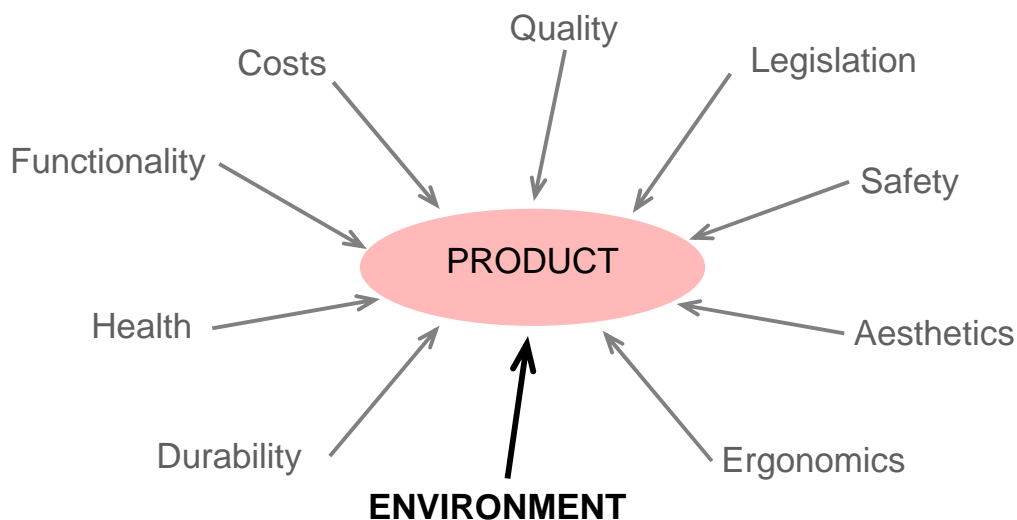
Life Cycle Thinking aims to avoid burden shifting. This means minimising impacts at one stage of the life cycle or in a geographic region or in a particular impact category, while helping to avoid increases elsewhere. For example, saving energy during the use phase of a product, while not increasing the amount of material needed to provide it. Actually, the burden shifting approach should be applied not only for a given product/service but also to the whole society/civilization. Taking a life cycle perspective requires a policy developer, environmental manager or product designer to look

beyond your own knowledge and in-house data. It requires cooperation up and down the supply chain. At the same time, it also provides you with an opportunity to use the knowledge that has been gathered to gain significant economic advantages.

The importance of design for life-cycle impacts is clear. It is estimated that 80% of the environmental impacts of products are determined during the design phase (Tischner et al., 2000). For this reason, you must consider the design stage in any attempt to improve the sustainability of your products or services.

3.1.3 What is ecodesign?

Design is a creative process for solving problems and human needs bearing in mind the constraints of the time and place. In turn, ecodesign is an approach to the design of products and services with special consideration for their environmental impacts during the whole lifecycle. It can be defined as the design that considers the environmental aspects and/or impacts associated with products, processes or systems, throughout the whole life cycle, together with other traditional aspects, such as costs, quality, safety, ergonomics, etc (Figure 3-2). Thus, the environment is another criterion, which is considered in order to prevent environmental impacts.



Remember that...

Design is not just a matter of aesthetics! Up to 80% of all product-related environmental impacts are determined during the design phase of a product. In particular, ecodesign considers the environment as an additional criterion to the traditional ones. In addition, it places great emphasis on the consideration of all life cycle stages throughout a product and its system (product-system concept).

Figure 3-2 Main criteria considered in the ecodesign process

A key idea necessary for understanding the ecodesign conception is the product-system concept. A change of focus from the product to the product-system concept distinguishes ecodesign from traditional design. Thus, attention moves from the product to the 'product-system'. In this manner, the product is not designed in isolation from the environment but having into account all aspects that make possible to satisfy its function. With this we refer not only to the selection of materials, production, retail, use and end-of-life management, but also the necessary infrastructures along its life cycle, the packaging used, the spare parts and accessories, etc. This approach (product as a part of a bigger system) allows you to detect if an improvement in one stage has positive implications on the global cycle or if only a transfer of impact has taken place.

3.1.4 Drivers and benefits of ecodesign

In order to implement the process of ecodesign to set up your business, it is very important you are aware of the drivers behind this decision, in order to assign the necessary resources to it. These drivers may be grouped into internal and external, in relation to your business idea (figure 3-3).

Internal drivers

- Entrepreneur's decision (yours): promotion of the reduction of environmental impacts related to your business idea and its products as an internal philosophy.
- Increased product quality: reliability and functionality often go together with a more sustainable product.
- Improved business image: the design and production of products with environmental value-added elements can boost your brand value and reputation, accompanying ecodesign with transparency and good communication.
- Cost reduction: design to reduce economic costs, which also implies a reduction on environmental impacts. Material and energy savings reduce wastes production and, therefore, on wastes treatment costs, optimize transportation (supply and distribution).
- Need for innovation: wish to be regarded as an innovative company by means of ecodesign, understood as a new source of motivation and creativity for you and your partners, participation for decision-making, etc.

- Increased staff motivation, including working conditions improvement and workers safety (health and risks). Good working environment increases without doubt the quality of your business and of your personal life and happiness.

External drivers

- Administration: environmental legislation and regulations putting pressure on products and industrial processes can force you to be more proactive.
- Market: customer/consumer pressure to reduce the environmental impact of activities and products. Consumers and prosumers are increasingly interested in the world that lies behind the product they buy, a world that is increasingly getting accessible thanks to the internet. In addition, ecolabelling schemes can be an additional element for a marketing strategy.
- Society: public opinion demanding certain levels of environmental responsibility and a reduction of the environmental impacts of products: energy use, end of life impact, etc.
- Competitors: either adoption of environmental improvements already incorporated by your competitors or going beyond them and incorporating improvements in immature sectors. Boost brand value on environmental and social aspects.
- Distributors: meet demands of distributors wishing to implement green procurement and/or engaged in corporate social responsibility.

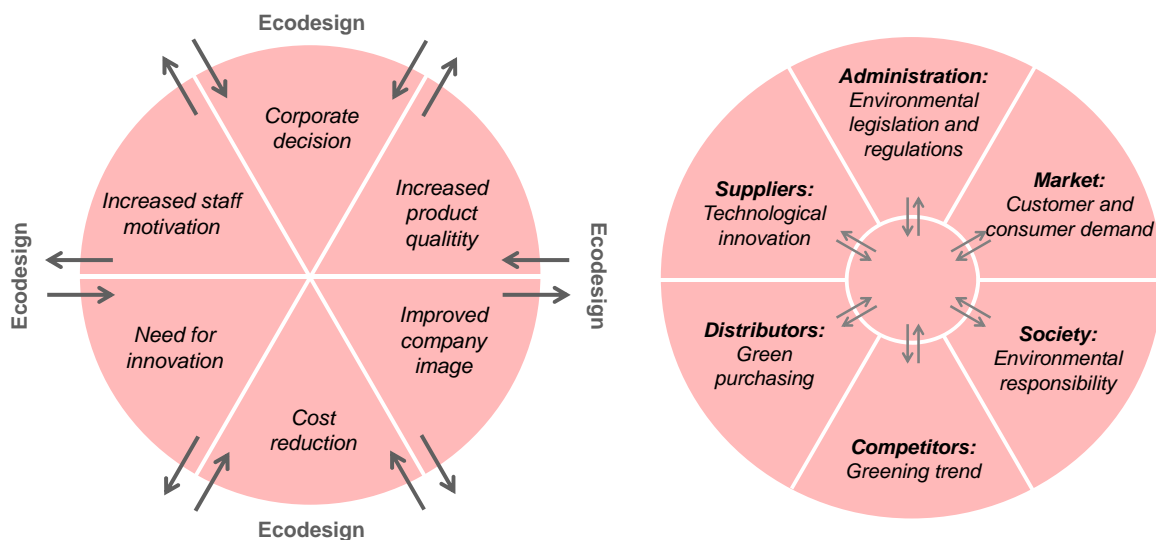


Figure 3-3 Internal (left) and external (right) drivers to implement ecodesign (adapted from Brezet and Van Hemel, 2007)

Benefits of ecodesign

The main benefits of implementing ecodesign, and by extension, of the environmental improvement of products and services, can be summarized as follows:

- **Ecoefficiency and ecoinnovation: Be more efficient and reduce your economic costs!** Some business opportunities can be realised in a short timeframe. For instance, if you manage to decrease the amount of raw material, energy, or water you use, this will lead you to direct savings in production costs. Similar benefits can be achieved by lowering the costs for cleaning equipment, waste management, tax savings, and reduction of future liability risks. By means of ecodesign, you may obtain savings in raw materials, energy, water, emission and waste treatment, product transportation, insurance costs, accident costs or future liability risks, among others.
- **Green image empowerment and access to new markets.** Ecodesign reduces the environmental impact of a product or service, aspect that you may communicate to the market (potential clients). By doing so, you can differentiate your product and get access to more environmentally conscious markets and also internationalize your business (which is highly recommendable in the current economic context). Ecolabelling systems are a good way to communicate your green business. These are systems that make it easier for consumers to take environmental concerns into account when shopping (see section 3.5 for further details). Additionally, ecodesign may foster branding and image creation and get access to Corporate Social Responsibility schemes.
- **Improve your relationships with stakeholders, communities and investors.** A responsible attitude towards the environment is a reason of satisfaction for stakeholders, especially when they are involved in the process of ecodesign (getting the most from collective intelligence for a more sustainable business world). This can improve the image and public acceptance of your company.

3.1.5 Ecodesign and ecoinnovation

An innovation is a new or significantly improved product (good or service) introduced to the market or the introduction within an enterprise of a new or significantly improved process. Innovations are based on the results of new technological developments, new combinations of existing technology or the utilisation of other knowledge acquired by the enterprise.

Product innovation is essential for your competitive position. Companies operate in a rapidly changing world in which customer needs and wants are not fixed and industry faces increasing competition due to open markets and globalisation. If your business idea effectively integrates innovation into your product/service development process, you can gain a significant competitive advantage.

Remember that...

Design can be considered as a practice for solving problems, discovering new opportunities and to lay the foundation for innovation.

Ecodesign is a way towards ecoinnovation, since by means of ecodesign, new solutions can be obtained to satisfy a given demand. Innovation can be categorised into three levels: incremental, radical, and fundamental (**UNEP, 2009**). Each category is progressively more significant and far-reaching.

- **Incremental innovation.** Entails step-by-step improvements of existing products and tends to strengthen market positions of established companies in the industry. This includes benchmarking approaches in which products of competitors are copied and/or improved.
- **Radical innovation.** Drastically changes existing products or processes. The risks and investments required for radical innovation are usually considerably greater than those needed for incremental innovation but facilitate the entry of new market players.
- **Fundamental innovation.** Depends on new scientific knowledge and opens up new industries, causing a paradigm shift. In the early stage of fundamental innovation, the contributions of science and technology are important.

The state of the art of your sector can be assessed by means of a sector benchmarking (see section 2.4.2), which may help you to identify opportunities for innovation. In addition, you can make use of a materiality assessment in order to take strategic decisions according to the innovation potential in your sector and your entrepreneur attitude (your readiness to innovate and take risks).

We want to highlight that in order to get to a radical (or even a basic) innovation, it is very important you open your mind and expand your horizons. For this reason, in module 2 we insisted on the need to leave your initial business project idea aside for a while and think of the mission you are pursuing. There are many ways to achieve your objectives and probably the first one you have in mind is not the best one (in environmental, social, economic, technical terms).

3.2 Toolkit of ecodesign strategies

Throughout the life cycle of your products and services you can implement many different strategies in order to make them more sustainable.

This chapter presents an enumeration of the most common ecodesign strategies, classified into groups depending on the life cycle stage in which they are mostly involved. Depending on the product or service, the impact is concentrated in some particular stages. Thus, the efforts should focus on incorporating strategies on that life cycle stage in order to deal with the main hotspots of environmental impact.

Remember that..

A combination of strategies throughout the several life cycle stages is recommended in order to reduce global environmental impacts. However, you should pay more attention to those life cycle stages with greater environmental impact.

Traditionally, ecodesign strategies are thought for the design of products (e.g. a car), while ecodesign is increasingly paying more attention to the design of so-called product-service systems (PSS) (e.g. car sharing system). In the case of PSS, the focus of design shifts away from producing products to providing a function —clean clothes, mobility, warmth, etc.—without users necessarily having to own or buy physical products, such as a washing machine, a car or fuel, in order to get that result. This approach can have significant environmental benefits (in terms of reducing the volume of products manufactured while maintaining or increasing profits for the company through service provision).

Example of PSS: To provide clean clothes may mean using a new type of laundry service instead of domestic washing machines. A laundry service requires fewer machines and hence reduces the amount of materials consumed in manufacture as well as reducing the number of machines requiring distribution and disposal. More importantly, a laundry can afford more energy-efficient commercial washers, while a larger market for such products may encourage the development of machines that have heat recovery to provide drying.

Remember that..

Product-Service Systems (PSS) provide a function unavoidably based on a certain product, but it generally results in significant environmental benefits. Thus, we recommend you to reflect on the possibilities to include a PSS approach into your business idea.

The list of strategies presented here considers both the design of products and PSS. This list originates from several sources (Brezet and van Hemel, 1997; UNEP, 2009) and the authors' own experience. Those strategies particularly oriented to PSS are highlighted by means of an asterisk (*). On the other hand, some strategies are oriented towards the eradication of Persistent Organic Pollutants, which are highlighted with an upper circle (°) (see Farreny et al. 2011 for more details). We suggest you revise all this list of strategies and think of the opportunities to include them in your business strategy!

3.2.1 Concept

The strategies in the conceptual stage aim to look for new solutions/options that reduce the environmental impact of your products/services without compromising the functionality.

- Dematerialization: minimisation of the resources used to perform a function.
- Product sharing: maximisation of the use of a product by promoting shared use.
- Multifunctionality: integration of various functions.
- Atemporal design: the product won't be out of fashion, and therefore will be in use longer.
- Introduction of services for technological and aesthetic up-gradeability and for maintenance, reparability and substitution of support products and infrastructures.*
- Introduction of take-back services (of products, supports, etc.).*
- Services with payment based on the unit of satisfaction/function.*
- Increase of environmental awareness of citizens through a suitable communication strategy, in order to increase responsible consumption patterns.*
- Adaptability (material/energy consumption linked to different functioning requirements; with the default consumption set as the minimum material/energy consumption option).*

3.2.2 Materials

At this stage, the main goal is to reduce the amount and diversity of materials used and/or replace them by more environment-friendly ones.

- Reduction of the amount of materials used (weight, volume...)
- Monomateriality: reduce the diversity of materials used for a given product (monomaterial products are easier to recycle).
- Renewable/natural resources (e.g. straw, wood...)
- Low-impact materials (materials that do not require big amounts of energy to be fabricated, without hazardous substances -additives, toxic materials, Persistent Organic Pollutants-; materials produced through environment-friendly processes or recycled materials). The incorporation of green procurement

guidelines, ecolabel requirements and/or restricted substances lists for the selection of low-impact materials may be helpful. °

- Local resources (their use fosters local economies and reduces transportation demand).
- Recyclable materials, especially those with a well-known recycling circuit.
- Materials with easy end-of-life management.
- Reused components.

3.2.3 Production

Ecodesign strategies at this stage try to reduce the environmental impact of the in-house production process.

- Simplification of the production processes (reduce the number of production steps, with the aim of reducing materials and energy consumption).
- Optimization of generated waste and emissions (e.g. internal recycling of waste derived from production).
- Reduction or elimination of the use of dangerous chemicals such as POPs (pesticides in agriculture, pigments without chlorinated substances and natural dyes in the textile industry, elementary or totally chlorine free processes in paper production, alternative substances as flame retardants, etc.)°
- Use of low-impact energy sources
- Efficient use of resources (avoid resources wasting).
- Choosing cleaner production processes (more efficient in water and energy consumption, using renewable energies without modifying the properties of materials that make them more difficult to recycle)
- Adequate process conditions during production to minimize environmental impacts (e.g. temperature control, presorting and cleaning of input materials, etc.) °

3.2.4 Distribution

The following strategies help you to improve your distribution system and make it more sustainable.

- Avoid superfluous packaging.
- Use of reusable packaging and made of low-impact materials
- Reducing the volume of the product, this optimizes your transport capacity (more units per delivery).
- Lighten product weight, which reduces energy consumption during transport.
- Reduction in energy consumption.
- Selection of more environment-friendly means of transportation.
- Redesign of the distribution logistics (i.e. share logistics with other nearby services or routes whenever possible).

3.2.5 Use

The following are some strategies to improve of the use stage of your products and services.

- Optimization of wastes and emissions during use.
- Reduce consumption of energy and materials per service unit offered by the product.
- Use of few (and clean) consumables (reduce support products for service functioning).
- Use of low-impact energy and materials.
- Long technical and useful life of products.
- Easy maintenance and repair (most vulnerable components should be easily removed and replaced).
- Easy installation and/or assembly, with a rational use of resources.
- Product reliability and durability.
- Modular product structure, to allow future adjustments.
- Strong link between the product and its user (it favours user care for long lasting of physical supports products and infrastructures).

3.2.6 End of Life management

The following strategies can help you to simplify the end-of-life cycle of your products/services.

- Simplification of product disassembly, to reduce the time and costs of separating its components for recycling or reuse.
- Identification of the type of materials used, in order to foster waste sorting.
- Reusability (e.g. reuse of product components).
- Biodegradability (making it easier to reincorporate parts of the product to their natural cycles/ecosystem).
- Recyclability.
- Energy recovery.
- Reduce the volume of waste by means of easy compaction of the product.
- Reducing toxicity of waste management, in order to avoid unintentional emissions of compounds such as POPs (e.g. incorporating adequate flue gas, solid residue and effluent treatments)°

3.3 Ecodesign of products and product-service systems: Step-by-step methodology

In the following figure 3-4 we show you the steps you can follow to design your product(s) or product-service system(s). These steps take place once you have defined your Strategic Action Line/s (and should be carried out for each Strategic Action Line), and represent the first stage in the process to answer the question 'How?' (see section 2.5. How? Implementing the project). The methodology is easily adaptable to the ISO 14006 standards [Environmental management systems -- Guidelines for incorporating ecodesign], which helps organizations in establishing, documenting, implementing, maintaining and continuously improving their management of ecodesign as a part of an environmental management system.

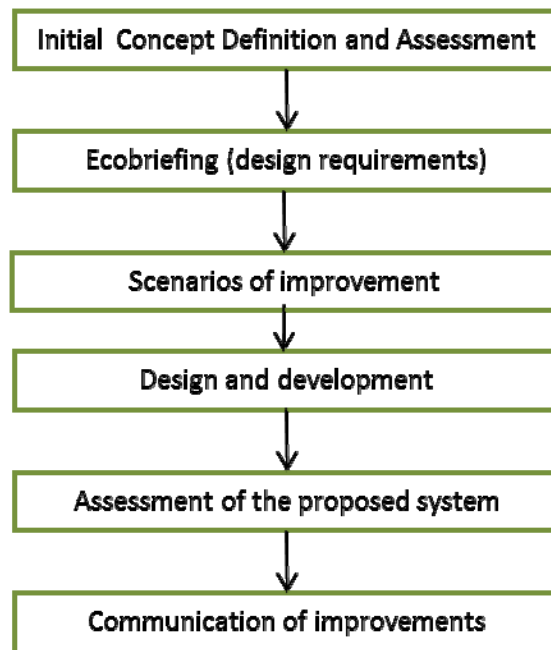


Figure 3-4 Step by step ecodesign methodology. The green boxes indicate each of the steps of the methodology. The interim results are shown with arrows on the right side of each step.

In short, once you have defined what are your strategic business action lines (those that maximise the creation of environmental and social value, that are more innovative, more economically/technically viable and for which you have more strengths), you make an environmental assessment of the proposal to identify the critical environmental aspects. Then, the design requirements for the system are defined and several strategies for improvement are thought of. After prioritizing them, the most interesting ones are included in the business proposal. Finally, the proposal is environmentally assessed again in order to evaluate the achieved improvements, which can then be translated into marketing claims.

3.3.1 Initial concept definition and assessment

The first step consists on defining and describing your initial business concept and then assessing it in order to detect what are the critical environmental aspects and the opportunities for improvement. As 'initial concept' we mean the first idea that materializes your strategic products/services. Remember that these are defined within the Strategic Action Plan (section 2.4) and that should be aligned to your mission and objectives. In other words, the initial concept is the idea of a business that comes to your mind once you have defined the Strategic Action Lines.

What is the initial concept of your business?

The first thing you should do to better describe the initial concept of your business is to define what the purpose/function that your strategic action line/s wants to satisfy is. Then, you should reflect on the options you have to provide such function by means of a product or a service. To do so, the sector benchmarking you performed in section 2.4 may inspire you and can be taken as a reference. The result of this should be an idea (initial concept) of your business activity.

Your turn

Now it is the time to define what is the initial concept or idea of your business, linked to your strategic action lines. You can start by answering the following questions: What is the purpose/aim/function that your business/activity aims to satisfy? How would you provide this function? (Section 2.5.1.A - DGBP template).

Case study

Mr. Textile & Co: 1

The case study used in this Module for clarification purposes consists of an entrepreneur that wants to set up a business named ' Mr. Textile & Co'.

The strategic action line of this entrepreneur consists of providing comfortable, environment-friendly and fashionable clothes -T-shirts- for people in his region. The initial concept they have in mind is to produce T-shirts made of cotton, which he considers to be a good environmentally-friendly material because it is renewable.



How does the initial concept look like?

To describe the initial concept, you should define its boundaries and most relevant elements (e.g. for a washing machine this might be: producing and purchasing materials/components, manufacturing the machine in the factory, selling, using it, repairing it, recycling it and final disposal, but also providing the water, the energy and the cleaning agents for the washing in the private household.)

Once you have clarified the initial concept, you should identify its most relevant actors (particularly for services), e.g. product manufacturers, suppliers, customers, retailers, etc. with their own interest in the system. It is important that you know the supply chains and describe the interest/role of each actor in the system. It is desirable to identify which company will be the most effective target for implementing design for the environment, since later you will be able to work on supply chains by means of product specifications and green procurement. You might take advantage of the previous stakeholder consultation (section 2.4.2) to identify the actors.

Do not forget to list the products (particularly for services) needed to make your business concept work. As a result you will obtain a list of (material) products and infrastructures that are necessary in the system.

Case study

Mr. Textile & Co. 2

The boundaries for the production of T-shirts are comprised by the following stages: raw materials, production, distribution, use and end-of-life (waste management).

Actors The actors directly involved in the process are the raw materials supplier(s) (cotton farmer), manufacturer, distribution companies, retailer(s) and user(s).

The main product of the system is the T-shirt. Other relevant products and infrastructures are the raw materials for production (water, fertilizers, fossil fuels, pesticides, etc.), the factory infrastructure, the distribution systems and the retail facilities.

Process / system map

With all this information you are able to draw a preliminary sketch of your initial concept that describes its interactions. This sketch (namely, process map for products and system map for services) should summarise and show the initial concept. In the case of product design, the process map should identify the inputs and outputs related to the life cycle of the reference system. In the case of PSS design, you should identify the actors and the interactions that are necessary to deliver the required function/satisfaction from the viewpoint of the beneficiary.

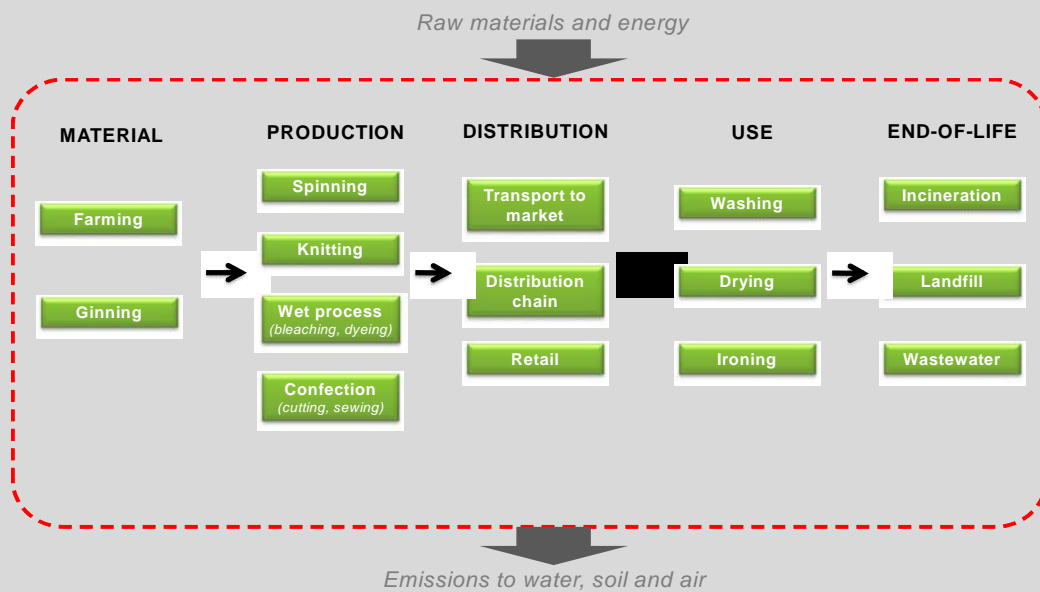
Your turn

Try to draw a sketch or a diagram of your initial concept (that is to say, your first idea of your business project). You will need to set the boundaries of your business activity, identify the actors and list the materials involved. (Section 2.5.1.A - DGBP template).

Case study

Mr. Textile & Co. 3

The process map of the production of T-shirts is presented next.

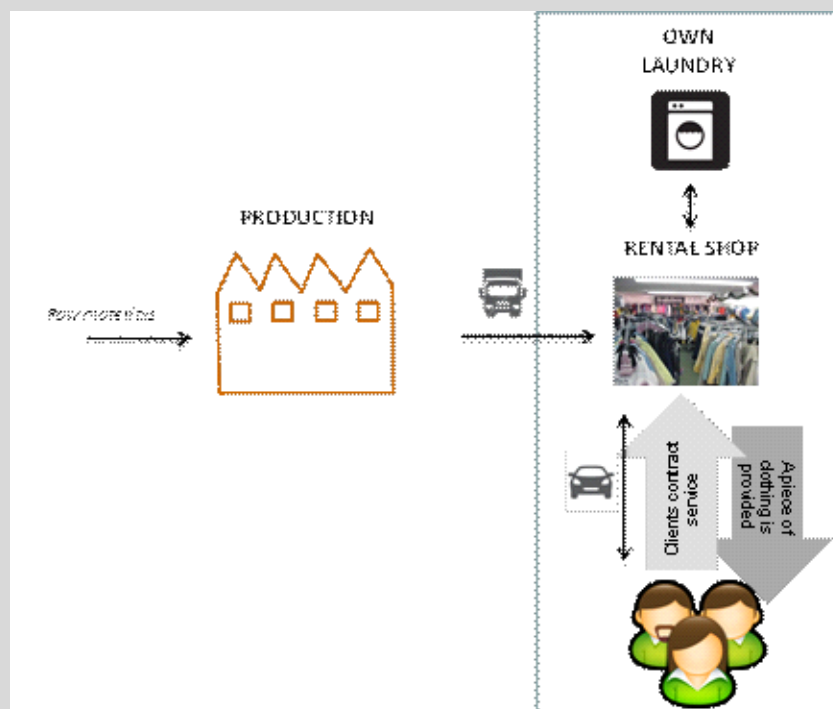


Case study

Mr. Textile & Co. 4

The case study presented in this module concerns a product (a T-shirt). However, the same methodology could be applied to the design of a service. This box presents an example of a possible initial concept for a clothes rental shop.

The rental shop owner buys clothes from different suppliers and rents them to clients. He also has its own domestic washing machine to wash clothes.



Environmental Assessment

There are several environmental assessment tools that are useful for the design process. These tools integrate the vision of products and services as something interrelated with the environment, and aim to achieve a reduction of the environmental impact throughout their life cycle. These tools allow identifying and/or quantifying the environmental aspects (energy consumption, waste generation, emissions...) associated with a product/service life cycle.

Depending on the tool, you may obtain more or less detailed results, either qualitative or quantitative. Section 3.4 presents a description of the tools that can be used to environmentally assess the initial concept (explaining them step by step). The aim of this assessment is to detect which are the hotspots of environmental concern, also called the critical environmental points. The 'case study boxes' in this section only present the results that are obtained from these tools (more details on the procedure are given in section 3.4).

Remember that..

There are different environmental assessment tools: both qualitative and quantitative. Some of them may need just few hours to be implemented, whereas other may need even months. You need to use one adequate to your purposes and means.

When carrying out the initial environmental assessment, it is important to think of the potential environmental impacts to human health and to the environment of the activities involved in the strategic action line. In particular, emphasis should be placed on avoiding the use or emission of Persistent Organic Pollutants³ (POPs) and other toxic chemicals, contributing to phase them out (which is the main goal of the Stockholm Convention).

Your turn

Let's environmentally assess your initial concept. What are the most critical environmental issues of your business idea? Which life cycle stages concentrate most of the impact? To answer these questions, start with the Checklist (try to answer it question by question) and then carry out a Qualitative Assessment of Life Cycle Criteria. (Section 2.5.1.B. - DGBP Template)

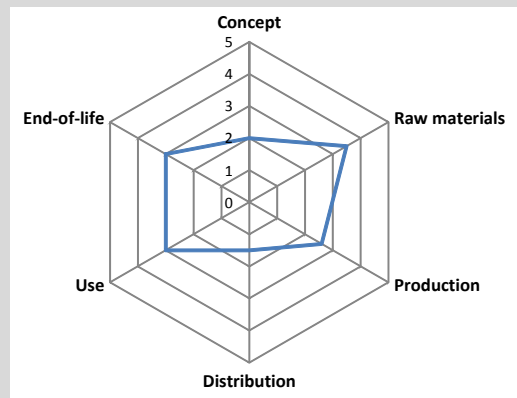
To perform an initial qualitative assessment it is suggested to use the checklist and the 'Qualitative Assessment of Life Cycle Criteria', which is a qualitative tool that may require just a couple of hours and can be applied by a non-expert team on ecodesign. However, if a more rigorous environmental assessment is needed, especially for the design of products, Life Cycle Assessment (LCA) may be used.

³ Persistent organic pollutants (POPs) are organic compounds that are resistant to environmental degradation through chemical, biological, and photolytic processes. Because of this, they have been observed to persist in the environment, to be capable of long-range transport, bioaccumulate in human and animal tissue, biomagnify in food chains, and to have potential significant impacts on human health and the environment

Case study

Mr. Textile & Co. 5

As a first environmental assessment tool, Mr. Textile & Co. have used the checklist. Then, they have applied the 'Qualitative Assessment of Life Cycle Criteria' to their initial concept (production of cotton T-Shirts). Results are shown next.

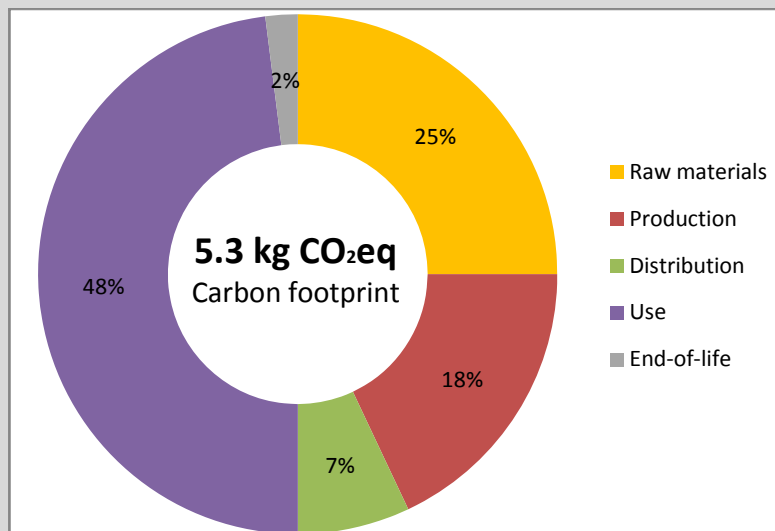


The diagram shows that the lowest marks are given to the distribution and concept life-cycle stages. Thus, there is larger room for improvement there (i.e. local production instead of imports). On the contrary, raw materials show the highest score (better performance), mostly related to the use of natural fibres such as cotton.

Case study

Mr. Textile & Co. 6

The results for the LCA of the reference T-shirt are shown next for the Carbon Footprint (see section 3.5 for further details)



The figure shows that the most impacting life cycle stage is, with difference, the use. This result is in line with that obtained for other impact categories (not presented here for simplicity reasons). The impact in the use stage is due to the washing, drying and ironing processes to maintain the T-shirt. Moreover, raw materials and production are also of environmental concern (providing fuel for agricultural machinery, use of chemicals for agriculture and production, and high levels of water consumption). In contrast, distribution and end-of-life present minor contributions to the environmental impact.

3.3.2 Ecobriefing (design requirements)

An ecobriefing is the process of setting the requirements for the product/service that you want to offer (that is, the ecodesigned product/service). Therefore, once you have identified the environmentally critical issues of your initial concept (e.g. logistics, materials, etc.), you can list the requirements that your team wants to meet (e.g. reduce transportation distances, look for alternative raw materials, increase functionality). The requirements are those conditions that are needed or wanted (e.g. substitute raw materials), but are not strategies themselves (e.g. use recycled fibres). It may be useful to indicate the life cycle stage in which a change could be made in order to satisfy the requirement. Try to identify also the actor(s) that would be affected by this possible change.

Your turn

Make a list of the requirements for your product/service, based on the critical issues that you identified in the environmental assessment. Remember not to provide solutions (strategies) here, but to identify the requirements that you expect from your product/service! (Section 2.5.1.C - DGBP Template)

Case study

Mr. Textile & Co. 7

The requirements that Mr. Textile & Co establish for the design of an eco-T-shirt, based on the previous environmental assessments, are:

- *Reduction of maintenance needs*
- *Increase of the useful life*
- *Look for alternatives to cotton*
- *Use of raw materials from less distant sources*

3.3.3 Scenarios of improvement (definition of ecostrategies)

The aim of this step is to identify strategies/actions that could be incorporated in the design of your business, and prioritize them based on sustainability and feasibility criteria.

First, you are encouraged to undergo a brainstorming process, which is a method used in creative thinking to come up with lots of ideas to solve a problem. The brainstorming process is based on the principle of avoiding any premature critic. Thus, you should think of different strategies that could be implemented in your system. At this stage, do not discard any possibility. Just be as creative and innovative as possible!

The goal is to pour any thoughts onto paper without worrying about whether they make sense or how they fit together. Then, organize the strategies, by means of a list and group/merge them if deemed necessary (they might be grouped in scenarios: a combination of two or more strategies altogether). For inspiration, look at section 3.2 (Toolkit of Ecodesign strategies) to get inspired about different available strategies. Another source of ideas is crowdsourcing initiatives, which can serve to draw knowledge from a much larger pool ("collective brain").

Remember that..

Along brainstorming, do not stop your imagination. All ideas are welcome. You will have enough time later to discard any unfruitful strategies.

Once the list is ready, prioritize the strategies according to two main criteria (other criteria could be added in this process; have a look at other strategic criteria used along the methodology in section 2.4.1):

- **Technical feasibility** (depending on the change and new technologies necessary, the short/medium/long term potential implementation, and the difficulties).
- **Sustainability potential** (environmental, economic and social aspects altogether). We would like to point out that not only environmental aspects are important in this stage, but also economic and social ones. Thus, those strategies that present a good performance at all levels are prioritized.

These criteria can be assessed either on qualitative or quantitative terms (depending on time and data availability). As a first proxy, it is recommended to make a qualitative assessment (for example, from 1 to 5, where 1 is the lowest score and 5 the highest) by means of evaluating the concepts compared to each other and by consulting all the previous evaluations that have already been completed.

For the technical feasibility, each strategy may be assessed considering the following scale (figure 3-5):

LOW FEASIBILITY	MEDIUM FEASIBILITY	HIGH FEASIBILITY
Implementation very difficult	Implementation possible	Implementation simple
Big change necessary	Medium change necessary	Small change necessary
A lot new Technology	Needs some new Technology	No new Technology necessary
Long term solution	Medium term solution	Short term solution
1	3	5

Figure 3-5 Feasibility assessment (orientative scale)

For the sustainability potential, there are several options to integrate the three sustainability pillars. One option is to assign a weighting factor to each pillar (i.e. 1/3 to each), then assess each one on a range from 1 to 5 (1 minimum – 5 maximum) and finally calculate the weighted score. It is recommended to complete this step in an expert workshop to reduce the subjectivity of the evaluation results and to co-create the final assessment results.

Then each strategy can be positioned in the diagram (figure 3-6) according to the high or low potential regarding sustainability and feasibility/implementation. In the next step you should only take strategies further that are positioned in the upper right field (green corner in Figure 3-6), because these are solutions that are best in all dimensions.

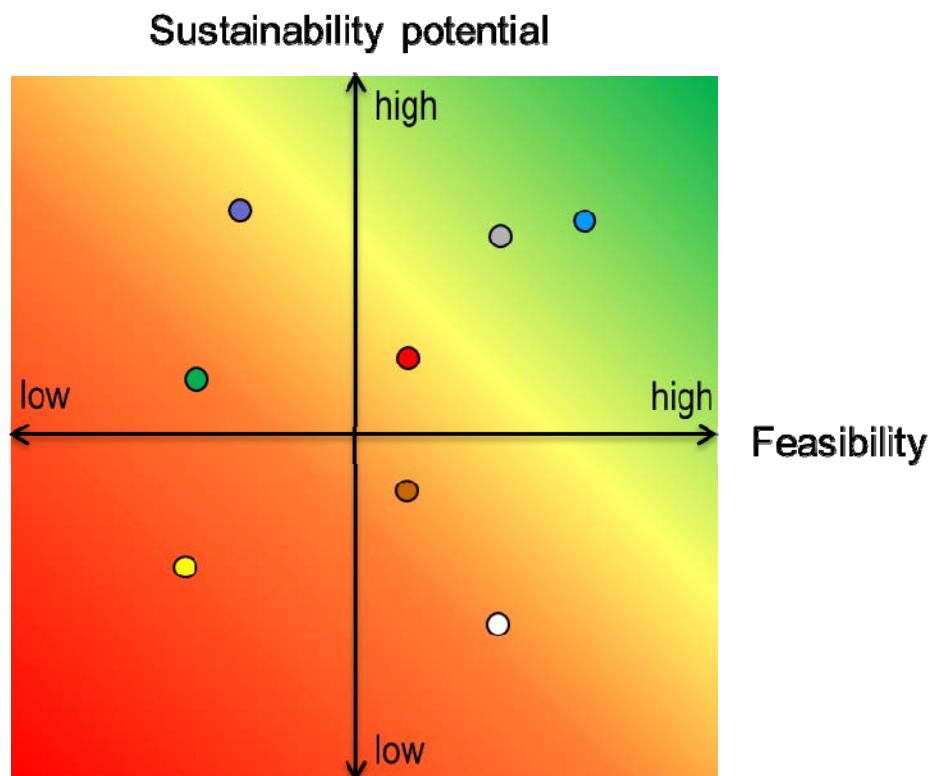


Figure 3-6 Sustainability-feasibility diagram for the selection of strategies to be implemented. Each dot corresponds to a strategy. The semaphore-coloured background indicates that those strategies closer to green colours are the most desirable ones.

Remember that...

The strategies with highest sustainability (environmental, economic, social) potential and more technically feasible are selected and incorporated into the design. The consideration of these strategies will let you move from the initial concept towards an ecodesigned proposal of your business.

Your turn

Carry out a brainstorming process to identify potential strategies that may give answer to the requirements set in the ecobriefing. Then, assess each strategy according to their sustainability and feasibility potential and prioritize those strategies that are located in the upper-right corner of the diagram. (Section 2.5.1.D - DGBP Template)

Case study

Mr. Textile & Co. 8

Some strategies for the ecodesigned T-SHIRT are listed next.

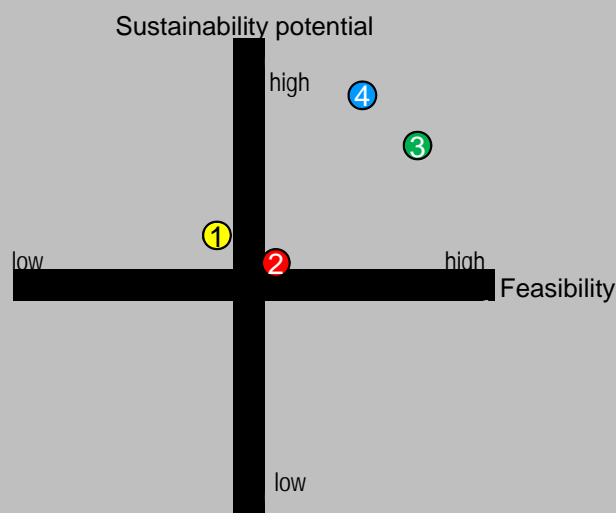
Strategy 1. Use of more environment-friendly fibers such as organic cotton locally produced

Strategy 2. Use of bioplastic bag and recycled cardboard box (less-impacting packaging)

Strategy 3. Reduction in energy consumption during use by means of avoiding drying and ironing thanks to an adequate selection of materials (e.g. polyester; it does not require ironing and takes less time to dry out)

Strategy 4. Communication (labelling): including recommendations of maintenance

The sustainability-feasibility diagram for Mr. Textile & Co is presented here (the numbers of the dots correspond to the previous strategies). According to the diagram, the most interesting strategies are the numbers 3 and 4. Strategy 1 has a low technical feasibility due to the water scarcity context of the region. Strategy 2 does not have a high sustainability potential because distribution is not a relevant life cycle stage for the case study T-shirt. Instead, strategies 3 and 4 present a good performance in both aspects: sustainability (in environmental but also economic terms, with cheap and cost-effective measures) and feasibility. It needs to be highlighted that this assessment strongly depends on each case study context.



3.3.4 Design and development

During the design and development process you will be able to develop the conceptual design of your product/service, including the most interesting strategies identified in previous sections. During this activity, different proposals may be obtained.

Your turn

Design your business activity by means of incorporating the previously selected ecostrategies. You can take the sketch of the initial concept as a starting point to draw your ecodesigned proposal, indicating what elements have changed. (Section 2.5.1.E - DGBP Template)

Case study

Mr. Textile & Co. 9

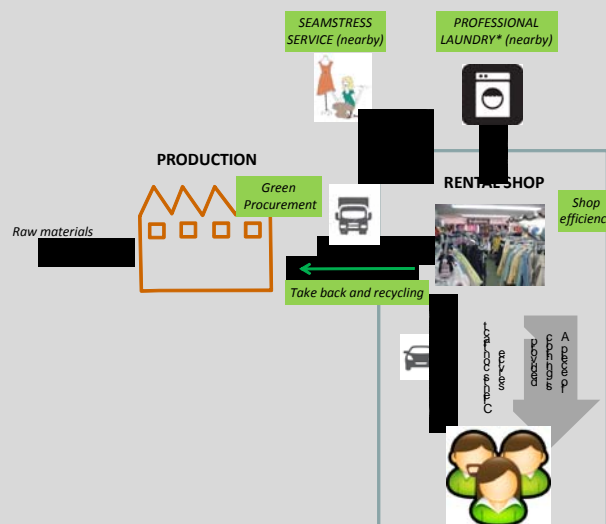
The eco-T-shirt is made of recycled polyester, a material that can be obtained from recycling PET bottles (a waste whose management is becoming a problem). Additionally, it is a material that requires no ironing and takes shorter time to dry (compared to cotton). This reduces the maintenance costs. Besides this, it incorporates labelling with recommendations of use (e.g. washing with cold water, no tumble dryer, ...)



Case study

Mr. Textile & Co. 10

Green labels show the strategies implemented in the case of the clothes rental shop.



3.3.5 Assessment of the proposed product/service

Once the proposed product/service is defined, together with any necessary assumptions on its composition/use/functioning you should carry out a final analysis to assess the benefits obtained by means of ecodesign. You can take the initial concept as a baseline to identify the achieved improvements compared to your initial idea. In addition, you could even compare your proposed product/service to the so-called reference system, which could be the existing business as usual alternative and/or one of the leaders of the sector that satisfy the same function as yours. You have identified some reference systems along the sector benchmarking.

On one hand, you can undertake an **assessment of the general improvements** considering:

- *Technical aspects:* the ecodesign may have incorporated changes in the production processes, transportation systems, use or final management, and consequently these changes should be evaluated.
- *Economic aspects:* they should be assessed considering a balance between the incurred costs, material investments, necessary labour, machinery, etc... and the obtained benefits (increased price on the market, more efficient processes, etc.). To do this assessment, it is essential to incorporate those people in charge of economic management and marketing.
- *Social aspects:* basic aspects such as satisfactory working conditions, presence of women or avoiding children's labour can be assessed. Additionally, it is recommended to make an assessment of the degree of acceptance of the product in the markets, checking if the improvements are acknowledged and what is the perception.

If any problem is encountered, you should identify it, measure it, and try to overcome it,

Remember that...

Ecodesign is not only about increasing environmental performance. It also pursues an improvement of the economic performance of products and services. Frequently, a reduction of environmental impacts is related to a reduction of economic costs.

as this is an iterative process of continuous improvement.

On the other hand, you should assess the **environmental improvements** of your product/service, since this is a key step to determine the success of the ecodesign process. You can use the same assessment tools that were used in the assessment of the initial concept. This process is also useful to detect in which life cycle stages there has been a greater reduction of the environmental impact

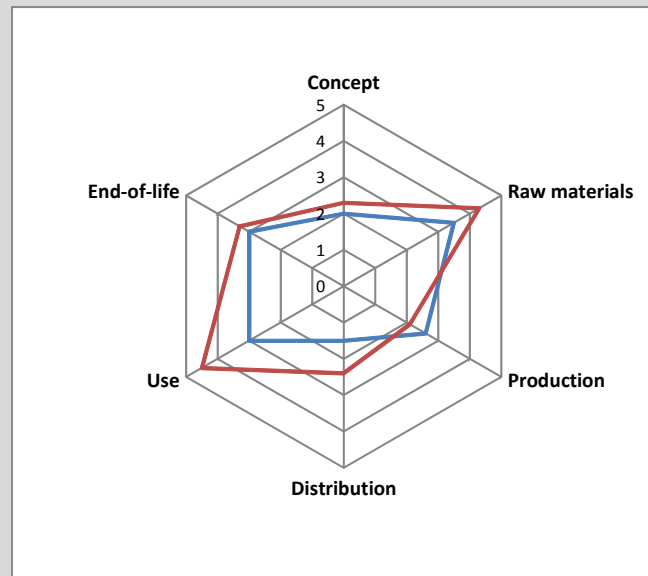
Your turn

Make an assessment of the general improvements of your business project (technical, economic and social) and identify adversities (if any). If you identify any obstacle, try to go back to steps 3.3.4 and 3.3.5 and re-define your proposal. Then, assess your proposal on environmental terms by using the same assessment tools used in step 3.3.1 and reflect on the results. (Section 2.5.1.F - DGBP Template)

Case study

Mr. Textile & Co. 11

The comparative assessment between the reference T-shirt and the new design shows an increase of the environmental performance in most life cycle stages, at expenses of a minor decrease of the score of the production stage (due to increased complexity in the production process). The main improvement is related to the maintenance (use stage). This improvement can also be seen in the carbon footprint of the proposed T-shirt, which is reduced by 45%.



3.3.6 Communication of improvements

If you want to empower the green image of your business and provide an added value to your services, you must be able to properly communicate the improvement you achieved. There are several schemes and strategies to communicate the environmental performance of your products/services (see section 3.5 for more details). In the section 2.5.4 of Module 2 (*Stakeholder engagement plan*), you can see the importance of choosing the right message and communication channel, and also that it is important that your stakeholders get involved and communicate your project for you.

Remember that...

The communication of improvements has a great potential in marketing terms: use it to empower your green image! Your product/service has an added value since it integrates the environment and society from its conception. Let your clients and beneficiaries know it.

Your turn

Try to find the best way to communicate your improvements to your stakeholders. How would you describe them? As an example, you could announce your carbon footprint, or provide information on the materials used or the reduced need for maintenance. (Section 2.5.1.G - DGBP Template.)

3.4 Tools for environmental assessment

You have at your disposal many different tools for the environmental assessment of your products and services. The main basic functions of environmental assessment tools in the ecodesign process are:

- **Description:** preliminary analysis of the reference product/service.
- **Prospection:** Determine, approximately, the environmental impact of a change in product design (scans those items that change).
- **Evaluation:** More detailed environmental analysis, which determines the environmental benefits of improvements in the product (detailed data on their composition and use).
- **Communication:** The results of the evaluation are used as an instrument for consumer information.

Different tools are presented next, in an order of increasing complexity, from more qualitative to more quantitative.

Remember that..

Generally, in order to begin with ecodesign, you should use simple tools, qualitative and semiquantitative, which do not require for experts advice and that encourage the use of concepts of eco-design and interdisciplinary work. If you start with more complex tools, you may find difficulties and get discouraged. However, keep in mind that all tools need to be applied with rigour and that the constraints of each tool must be considered when interpreting the results.

3.4.1 Checklist

The following checklist consists of a set of questions for the analysis of your product's environmental impact. By answering these questions, you can establish the bottlenecks in the product life cycle and, accordingly, think of strategies to overcome them (as the ones presented in section 3.2).

The checklist starts with a needs analysis, which consists of a series of questions concerning the functioning of a product as a whole. The main question asked in a needs analysis is to what extent the product fulfils its main and auxiliary functions. The needs analysis is followed by a set of questions categorised per stage of the product life cycle (production, distribution, utilisation, recovery and disposal).

The checklist represents a thorough and systematic understanding of the product's impact on the environment. Thus, you can use it as a first environmental assessment of a given product or service (for example, from the sector benchmarking) or for your own proposal (once a clear idea of it has been developed). It is also often used as a tool to avoid missing any environmental impact of the product, and in combination with other tools (e.g. Qualitative Assessment of Life Cycle Criteria).

You can find many different types of checklists for environmental assessment. Next there is an adapted version from the well-known checklist from Brezet and van Hemel (1997). In parallel to this, you can also have a look at the Sustainability Inventory of aspects found in Annex I, as a reference for classical environmental aspects. This inventory may inspire you in identifying more questions to be included in the checklist.

Life Cycle Stage: Needs analysis

- How does the product system actually fulfil social needs?
- What are the product's main and auxiliary functions?
- Does the product fulfil these functions effectively and efficiently?
- What user needs does the product currently meet?
- Can the product functions be expanded or improved to fulfil users' needs better?
- Will this need change over a period of time?
- Can you anticipate this through (radical) product innovation?

Life Cycle Stage: Production and supply of materials

- What problems arise in the production and supply of materials and components?
- How much, and what types of plastic and rubber / additives / metals / other types of materials are used?
- How much, and which type of surface treatment is used?
- What is the environmental profile of the components?
- How much energy is required to transport the components and materials?
- Are materials and components of high material intensity?

Life Cycle Stage: Production

- What problems can arise in the production process in the factory?
- How many, and what types of production processes are used? (including connections, surface treatments, printing and labelling)
- How much, and what types of auxiliary materials are needed?
- How high is the energy consumption?
- How much waste is generated?
- How many products don't meet the required quality norms?

Life Cycle Stage: Distribution

- What problems can arise in the distribution (of the product to the customer, the client to the service, etc.)?
- Is there any heavy transportation of goods/semi-finished products, byproducts, people?
- What kind of transport packaging, bulk packaging, and retail packaging are used (volumes, weights, materials, reusability)?
- Which means of transport are used?
- Is transport efficiently organised?
- Is there any un-useful (empty) use of transportation means?
- Can you use infrastructures for digital transfer/access of information?

- Can you seek for partnership for local resource use (avoiding distribution needs)?

Life Cycle Stage: Utilization

- What problems arise when using, operating, servicing and repairing the product? How much, and what type of energy is required, direct or indirect?
- How much, and what kind of consumables are needed?
- What is the technical lifetime? Do parts of the system tend to be technologically obsolete? Can you add to product/infrastructure offer, services for their technological up-gradeability?
- What is the aesthetic lifetime of the product? Do parts of the system tend to be culturally/aesthetically obsolete? Can you add to product/infrastructure offer, services for their aesthetic/cultural up-gradeability and/or their adaptation to new contexts?
- How much maintenance and repairs are needed? Can you add to product/infrastructure offer, services for their maintenance, reparability, substitution?
- Do some parts of the system tend to wear out easily (than other)?
- What and how much auxiliary materials and energy are required for operating, servicing and repair? Are disposable systems and products (packaging or support products) used?
- Can the product be disassembled by a laywer?
- Are those parts often requiring replacement detachable?
- Can you offer the access/availability to products/infrastructures through payment based on the unit of utility/satisfaction?
- Can you offer collective/shared use of products/infrastructures?
- Can you outsource activities when higher specialization and technological efficiency of products/infrastructures are available? Or when higher scale economies are feasible?
- Can you seek for partnership aiming at decentralized renewable/passive energy resource use?
- Can you within services offer introduce products based on non-exhausting/renewable and biodegradable materials?

Life Cycle Stage: Recovery and disposal

- What problems arise in the recovery and disposal of products?
- How is the product currently disposed of?
- Are components or materials being reused?
- What components could be reused?
- Can the components be reassembled without damage?
- What materials are recyclable?
- Are the materials identifiable?
- Can they be detached quickly?
- Are any incompatible inks, surface treatments or stickers used?
- Are any hazardous components easily detachable?
- Do problems occur while incinerating non-reusable product parts?
- Is the system producing high quantify of waste?
- Can you add to product/infrastructure offer, take back services aimed at re-using or re-manufacturing? At recycling? At energy recovery? At composting?
- Can you seek for localized alliances/partnership aiming at symbiotic/cascade approach for secondary resources' use?

In short, to implement a checklist like the previous one you only need a meeting space and less than one day, basic notions of the product to be analysed and some training on ecodesign. The checklist is an easy tool that helps you assimilate ecodesign concepts and facilitates the communication of environmental aspects. Nonetheless, it is quite a subjective tool that may not be sufficient and that may lead to forget some important issues (especially if the checklist is not adapted to your sector).

Remember that..

The checklist aims to offer you useful information in a systematic manner, to identify the bottlenecks in the product life cycle and then start thinking of strategies for improvement.

3.4.2 Qualitative Assessment of Life Cycle Criteria

The Qualitative Assessment of Life Cycle Criteria is a qualitative environmental assessment tool based on the study of life cycle stages. In brief, this tool places in a spider web diagram the various life cycle stages and shows a score, which is representative of the degree of performance of each stage against several criteria that may be of environmental relevance. The methodology explained here stems from the Ecodesign Strategy Wheel [Brezet and van Hemel, 1997].

The steps to perform this assessment are summarized next:

- **Life Cycle Stages.** Define the life cycle stages of the analysed product or service. Figure 3-7 shows the typical life cycle stages considered in the assessment of a product. In the case of analysing a service, instead of talking about life cycle stages, we can just refer to assessment categories.

Typical product life cycle stages



Potential categories to be considered in services

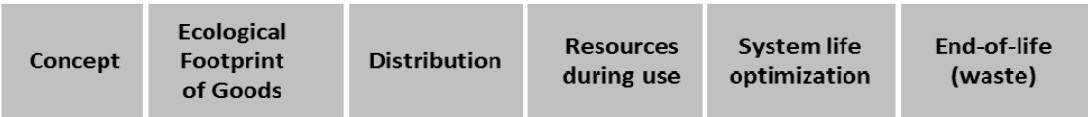


Figure 3-7. Categories for the 'Qualitative Assessment of Life Cycle Criteria' tool

- **Environmentally relevant criteria.** Select relevant criteria linked to the product/service under study, and associated with its life cycle stages / assessment categories. Some examples of these criteria are shown in figure 3.8. The ecodesign checklist (section 3.4.1) and the toolkit of ecodesign strategies (section 3.2) can inspire you on potential criteria to consider for your green business.

Concept	Materials	Production	Distribution	Use	End-of-life
Dematerialization	Amount of materials	Use of energy	Efficiency of the volume	Difficulty to open	Recyclability
Multifunctionality	Diversity of materials	Generation of waste	Amount of materials	Conservation of the product	Possibilities to reuse
Environmental communication	Recycability of materials	Use of water	Use of packaging	Use of the content	Separability of components
Shared use of the product	Proximity of sources	Use of consumables	Efficiency of means of transport	Energy consumption	Existence of tack back services
...	Energy content	Complexity of process	Reusability of packaging	Use of consumables	Safe energy recovery
...

Figure 3-8 Matrix of life cycle stages/ assessment categories and aspects

- **Assessment** of the life cycle stages / assessment categories. Evaluate the selected criteria according to the possibilities to environmentally improve them, from 1 to 5, from least to most. Thus, this is a measure of the room for improvement for each criteria or, in other words, a way to determine the extent to which strategies to reduce the environmental impact are already in place.

- 5** No room for improvement - excellent (100%)
- 4** Small room for improvement (75%)
- 3** Some room for improvement (50%)
- 2** Big room for improvement (25%)
- 1** Enormous room for improvement (0%)
- No data available / not applicable

Then, calculate an average score for each lifecycle stage / assessment category in the matrix.

- **Graphic representation.** Make a graph, consisting of as many axes as life cycle stages / assessment categories, on which the corresponding value is indicated (Figure 3-9). The area represents the environmental impact: the lower the potential impact, the larger the area is (closer to 5, no room for improvement).

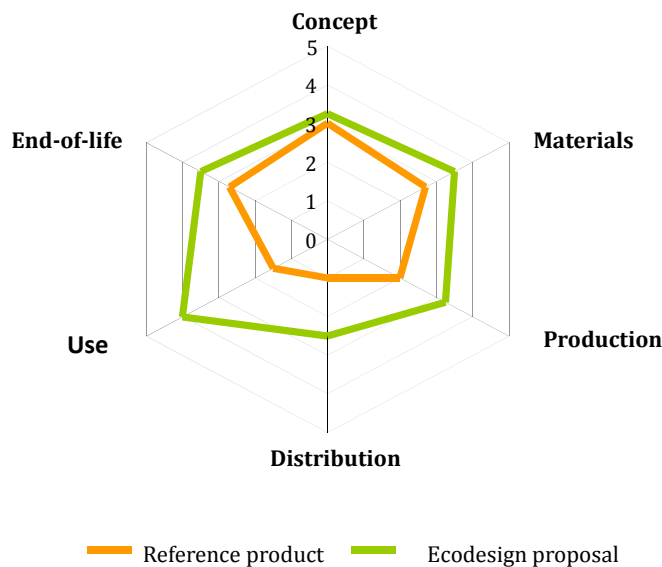


Figure 3-9 Qualitative Assessment of Life Cycle Criteria (spider diagram)

- **Interpretation** of the spider diagram results. Those axes with lower scores represent the life cycle stages / assessment categories with greater room for improvement.

Summing up, the Qualitative Assessment of Life Cycle Criteria should be performed by a multidisciplinary team with general knowledge of the product to be analysed. It can be carried out in less than one day and only requires a meeting space and some graphic material. The main pros for this tool are that it introduces the life cycle concept, the diagram is easy to read for unfamiliar professionals and facilitates the communication of improvements. In contrast, it is a quite subjective tool whose results depend on the capacity and experience of the team. Additionally, it does not show the importance of each life cycle stage, as they are equally weighted. Thus, it is important to consider burden-shifting limitations when using this tool.

Remember that...

The Qualitative Assessment of Life Cycle Aspects aims to explore in a qualitative way the performance of products and services against several criteria relevant to them throughout their life cycle. Despite being a qualitative assessment tool, it needs to be used with rigour and be cautious when interpreting the results.

3.4.3 Life Cycle Assessment (LCA)

Life Cycle Assessment (LCA) is a process to evaluate the environmental burdens associated with a product, process, or activity by identifying and quantifying energy and materials used and wastes released to the environment; to assess the impact of those energy and materials used and releases to the environment; and to identify and evaluate opportunities to affect environmental improvements. The assessment includes the entire life cycle of the product, process or activity, encompassing, extracting and processing raw materials; manufacturing, transportation and distribution; use, re-use, maintenance; recycling, and final disposal [SETAC, 1991].

LCA addresses the environmental aspects and potential environmental impacts (e.g. use of resources and the environmental consequences of releases) throughout a product's life cycle from raw material acquisition through production, use, end-of-life treatment, recycling and final disposal (i.e. cradle-to-grave) [ISO 2006].

For such evaluation, you should compile an inventory of material and energy inputs and releases to the environment associated with the product/service at all stages from the extraction and processing of inputs through the use and eventual disposal of the product. Then, it is necessary to evaluate the potential environmental impacts associated with those inputs and outputs and interpret the results of the inventory and impact phases regarding the initial objective. The results of the environmental assessment should be monitored and reported periodically (see Sustainability Management Plan, section 2.5.3 in Module 2).

Remember that...

Life Cycle Assessment is a powerful quantitative and objective environmental assessment tool to evaluate the global environmental impact of a product or service under a life cycle approach. Its methodology is standardized and it is recognized as a comprehensive and rigorous environmental assessment tool.

The LCA community has worked closely with the International Organization for Standardization (ISO) to produce standards for the LCA framework [ISO, 2006]. The current standard practice of LCA includes four steps (Figure 3-10):

- **Definition of the goal and scope of a project.** In this step, you should describe the reasons for carrying out your study, your intended audience and whether the results would be used in comparative assertions with the intention of being disclosed to the public. Furthermore, the scope is also stated, which includes the following items: the product system to be studied; the functions of the product system or, in the case of comparative studies, the systems; the functional unit; the system boundary; allocation procedures; impact categories selected and methodology of impact assessment, and subsequent interpretation to be used; data requirements; assumptions; limitations; initial data quality requirements; type of critical review, if any; type and format of the report required for the study. The functional unit is a measure of the function of the studied system and it provides a reference to which the inputs and outputs can be related. This enables the comparison of two essential different systems.

- **Inventory analysis**, also known as life cycle inventory, involves data collection and calculation procedures to quantify relevant inputs and outputs of a product system (energy and raw material requirements, atmospheric emissions, waterborne emissions, solid wastes, and other releases for the entire life cycle of a system). This stage includes the allocation of flows and releases, since industrial processes normally yield multiple products that can be recycled or discarded as raw materials. Such inventory serves as the basis to evaluate the potential human health and global environmental impacts of the environmental resources and releases identified during the life cycle of the system.
- **Impact assessment**. The life cycle impact assessment is aimed at evaluating the significance of potential environmental impacts using the life cycle inventory results. In general, this process involves associating inventory data with specific environmental impact categories (such as climate change, ozone depletion, human toxicity, ecosystem toxicity, and biotic resource depletion) and category indicators, thereby attempting to understand these impacts. The challenge in the impact assessment step is to evaluate the significance of hundreds of inventory items in terms of a small number of indicators.
- **Interpretation of the significance of impacts**. Interpretation is the phase of LCA in which the findings from the inventory analysis and the impact assessment are considered together. During the interpretation phase you should get results that are consistent with your defined goals and scope and which reach conclusions, explain limitations and provide recommendations to decision-makers.

These steps are not followed just one after the other. It is an iterative process that you can follow in different rounds achieving increasing levels of detail.

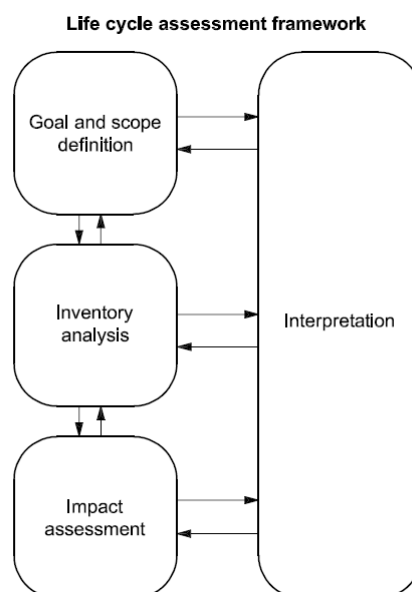


Figure 3-10 LCA framework (ISO, 2006)

There are several software packages for LCA practitioners that may be helpful to put the methodology into practice (e.g. Simapro, Gabi, etc.). There are also several databases (e.g. Ecoinvent) that compile consistent and transparent up-to-date Life Cycle Inventory data in different areas (agriculture, energy supply, transport, biofuels and biomaterials, chemicals, construction materials, packaging materials, basic and precious metals, metals processing, electronics as well as waste treatment). These software packages and databases make it easier to carry out a Life Cycle Assessment. However, it is necessary to have higher levels of expertise on the methodology and also on the environment to use them. Further guidance on this topic may be found on the webpage of the European Commission Joint Research Centre LCA information hub (EC JRC, 2012) and the UNEP Life Cycle Initiative (UNEP Life Cycle Initiative, 2012).

Summarizing, LCA is a tool that requires expertise with the methodology, software and databases, together with high quality data from the activities that take place in order to create a consistent inventory. Besides, it requires a substantial amount of time, from weeks to months depending on the complexity of the product to assess, and also the availability and quality of data. The main strengths are that a global vision of the system is obtained, with a clear identification of the potential environmental impacts.

3.5 Tools for environmental communication

Environmental communication is essential to explain and publicise your environmental achievements so that your stakeholders know about your commitment to environmental protection. Thus, the communication of your successes is a small but crucial step towards reaping the rewards of your environmental performance on the business market and in the public eye. For this, it is necessary to use simple languages that properly pass on the message in an adapted way to the several target stakeholders. In addition, environmental communication can be useful for awareness raising purposes.

There are several ways and tools to communicate your environmental performance, as described next.

Remember that...

By means of environmental communication strategies, you can differentiate your product/service and get access to more environmentally-conscious markets.

3.5.1 Ecolabelling schemes

Ecolabels are voluntary labelling systems that serve as a form of sustainability measurement directed at consumers, intended to make it easy to take environmental concerns into account when shopping. Some labels quantify pollution or energy consumption by way of index scores or units of measurement; others simply assert compliance with a set of practices or minimum requirements for sustainability or reduction of harm to the environment.

Environmental labelling is, according to ISO 14020, a set of voluntary tools aimed at stimulating the demand for products and services with lower environmental burdens by providing relevant information on their life cycle to address purchaser's demands on environmental information.

A key aspect in the use of ecolabels is that it is essential to provide truthful and, if possible, verified information in order to make them reliable. Thus, there are three standard types of environmental labelling according to ISO 14020 (*Environmental Labeling: General Principles*):

- Type I: **Certified eco-labels**. They consist of a voluntary, multiple-criteria based, third party program that awards a license which authorizes the use of environmental labels on products indicating overall environmental preferability of a product within a product category based on life cycle considerations. An example of Type I ecolabel is the EU Ecolabel (<http://ec.europa.eu/environment/ecolabel/>).
- Type II: **Product self-declarations** (informative environmental self-declaration claims developed by the producer, not involving independent audit). Here, for example, you may inform about the non-use of POPs in your production processes and simultaneously raising awareness.
- Type III: **Environmental Product Declarations**, EPD (eco-label that provides quantified environmental data of a product, under pre-set categories of parameters set by a qualified third party and based on life cycle assessment, and verified by that or another qualified third party). Different examples and more information on EPDs can be obtained in <http://www.environdedec.com/>.

Ecolabelling and green procurement

Ecolabelling schemes make it easier to implement green procurement policies. **Green procurement** is a voluntary approach that consists of acquiring products and services that respect the environment, i.e. that meet the standards of quality and service and that in turn generate a lower environmental impact.

Green procurement is getting increasing attention, especially from public administration bodies (but also from private businesses) since if they use their purchasing power to choose goods, services and works with a reduced environmental impact, it will result in an important contribution towards local, regional, national and international sustainability goals. Additionally, green procurement can be a major driver for innovation, providing entrepreneurs and industry with real incentives for developing green products and services.

Ecolabels can be used in different ways in the context of green procurement. They may be used to draw up the technical specifications in order to define the characteristics of the goods or services that are being purchased, and also to check compliance with these requirements, by accepting the label as a means of proof of compliance with the technical specifications.

Remember that...

Green Public Procurement is receiving increasing attention. By doing so, public authorities prioritize products, services and works with higher environmental performance, thus fostering a greener economy. If your product or service satisfies the requisites of certain ecolabel schemes, you can access call for tenders that follow a green procurement approach and get a competitive advantage.

In line with green procurement guidelines, it is also possible to use Restricted Substances Lists (RSL), which specify the chemical substances that are banned or restricted for the use in certain circumstances (e.g. contributing to eradicate POPs). According to this, your suppliers have to comply with the requirements that you may lay down in your RSL.

3.5.2 Environmental reporting: use of indicators

Providing information on the impacts of your main products or your organization should form part of your environmental reporting (see *Sustainability Management Plan*, section 2.5.3 in Module 2) and communication strategy (see *Stakeholder engagement plan*, section 2.5.4 in Module 2), since your customers, business partners and the local community will only be aware of your commitment to the environment if you report it. This is essential to enhance your environmental profile in the business market and make your company stand out positively from competitors.

Environmental performance reports do not judge a product, service or facility to be good, bad, or indifferent as these are comparative assessments. The reports simply provide relevant, trustful, and useful information. The main environmental attributes should be provided in a format that has been standardized for that particular sector, as should the testing methods and protocols (i.e. the way the measurements are taken).

Two indicators of increasing importance to report your environmental performance are the carbon footprint and the water footprint.

Carbon footprint

The carbon footprint for organizations and/or products is an estimate of greenhouse gas (GHG) emissions from business activities. This calculation has increasingly more significance for organizations as customers and consumers perceive and increasingly support environmentally responsible firms.

Some reasons why you should decide to calculate the carbon footprint of your project can be to:

- Understand and manage the carbon footprint of your activities.
- Identify opportunities for cost savings.
- Provide quality information to customers and consumers.
- Create a competitive advantage.
- Generate a corporate image of environmental respect and not "green washing".
- Incorporate and communicate strategies to reduce emissions.
- Get started in the voluntary purchase and sale of carbon credits.

The analysis of the carbon footprint results in data that can be used as global environmental indicator of the activity and as a basic reference for the start of actions to reduce energy consumption. Through the exercise of calculating the carbon footprint, you can identify the sources of GHG emissions and better define your goals and establish measures to reduce energy consumption in an effective way.

The International Standard ISO 14064-1:2006 *Greenhouse gases - Part 1: Specification with guidance at the organization level for quantification and reporting of greenhouse gas emissions and removals* checks carbon emissions of enterprises, guaranteeing transparency and, therefore, going a step forward in the recognition of organizations in their fight against climate change.

The calculation of carbon emissions for products is standardized by the specification PAS 2050:2011, which provides a method for assessing the life cycle GHG emissions of goods and services (jointly referred to as "products") and will be soon covered also by ISO standards (ISO 14067 *Carbon footprint of products - Requirements and guidelines for quantification and communication*).

Remember that...

The carbon footprint of products is increasingly popular. It is expected that consumers will integrate it as an additional criterion for their products purchase.

Water footprint

The water footprint is an indicator of freshwater use that looks not only at direct water use of a consumer or producer, but also at the indirect water use. The water footprint can be regarded as a comprehensive indicator of freshwater resources appropriation, next to the traditional and restricted measure of water withdrawal. The water footprint of a product is the volume of freshwater used to produce the product, measured over the full supply chain [Hoekstra et al. 2011].

This indicator is not so commonly used as the carbon footprint, but is especially valued in water-scarce regions, such as the Mediterranean Sea basin.

3.5.3 Environmental Management Systems

The goal of an Environmental Management System (EMS) is to continuously improve environmental performance within your business using a step by step approach. This can be done in several ways, either creating your own EMS or following existing standards.

This guide proposes the implementation of the *Sustainability Management Plan* (section 2.5.3, Module 2) as a first step towards the management of your activities by means of a set of indicators that measure your performance on a regular basis.

However, this may be complemented with standard EMS procedures through which you set out responsibilities, procedures and methods that bring environmental issues into your operational activities. The full procedure, including the requirements that must be fulfilled, is described comprehensively in the European EMAS Regulation and in the international standard ISO 14001. Once an external independent expert substantiates your compliance with these schemes you receive the EMAS Label or an ISO 14001 certificate, which can be used for advertising and marketing purposes.

In addition to these standards, ISO 14063:2006 gives you guidance on basic notions, policies, strategy and activities relating to both internal and external environmental communication. It utilizes proven and well-established approaches for communication, adapted to the specific conditions that exist in environmental communication. It is applicable to all organizations regardless of their size, type, location, structure, activities, products and services, and whether or not they have an environmental management system in place.

Finally, ISO 14006:2011 (Environmental management systems -- Guidelines for incorporating ecodesign) provides guidelines to assist organizations in establishing, documenting, implementing, maintaining and continually improving their management of ecodesign as part of an EMS. ISO 14006:2011 is often used by those organizations that have implemented an EMS in accordance with ISO 14001, but can help in integrating ecodesign in other management systems. The guidelines are applicable to any organization regardless of its size or activity.

Module 4: Resources for Green Entrepreneurs

After three modules of rigorous theory and some case study examples, this fourth module aims to gather a useful compilation of practical resources for green entrepreneurs. This information is classified by countries and type of resources/organizations and refers mainly to the Mediterranean region, although resources from some non-Mediterranean countries have been added as well, due to their relevance.

Even when resources for green entrepreneurs are still scarce, they are increasing every day and the following references do not pretend to constitute an exhaustive source of information, but a relevant and useful one. We hope it helps you with your own green project!

4.1 Mediterranean Countries

- **Bosnia Herzegovina**

- *Consulting organizations Ipsa*

Contact: Manja Palandzic manja.palandzic@ipsa-institut.com

<http://www.ipsa-institut.com/>

Center for Economic Technological and Environmental Development

Contact: Aida Muminovic Sarajevo

amuminovic@ceteor.ba

<http://www.ceteor.ba/en>

- **Egypt**

- *Public institutions*

Egyptian Environmental Affairs Agency

Contact: eeaa@eeaa.gov.eg

<http://www.eeaa.gov.eg/English/main/about.asp>

- *Trade associations*

Federation of Egyptian Industries

Contact: info@fei.org.eg

<http://www.fei.org.eg/?>

- **France**

- *Public institutions*

Agence Française de Développement

Contact: Mara Yagan yaganm@afd.fr

Country: France, Turkey Istanbul

<http://www.afd.fr/lang/en/home>

Activities & Projects:

- loans

<http://www.afd.fr/lang/en/home/outils-de-financement-du-developpement/prets>

- *Private institutions*

Entrepreneur Vert

<http://www.entrepreneurvert.fr/>

- **Greece**

- *Consulting organizations*

New Mellon

<http://www.newmellon.gr/>

Activities & Projects:

- green investing

http://www.newmellon.gr/index.php?option=com_content&view=article&id=32&Itemid=5

GreenEvolution

Contact: info@green-evolution.eu

<http://www.green-evolution.eu/default.asp?pid=1&la=1>

Activities & Projects:

- funding & support: <http://www.green-evolution.eu/default.asp?pid=74&la=1>

- **Israel**

- *NGOs*

The Israeli Society for Sustainable Economics

Contact: Ronny Daniel

Project.erech@gmail.com

<http://www.ecoeco.org.il/>

- *Public institutions*

The Union of Local Authorities in Israel

Contact: Milka Carmel MILKA@MASHAM.ORG.IL

<http://www.masham.org.il/English/Pages/default.aspx>

- *Trade associations*

Manufacturers Association of Israel

Contact: Osnat Avital osnat@industry.org.il

<http://www.industry.org.il/Eng/>

- **Jordan**

- *Banks*

Jordan Loan Guarantee Corporation (JLGC)

Contact: mail@jlgc.com

<http://www.jlgc.com/>

Activities & Projects: <http://www.jlgc.com/program.htm>

- *Public institutions*

Jordan Enterprise Development Corporation

Contact: crm@jedco.gov.jo

<http://www.jedco.gov.jo/joomla/>

Activities & Projects: SME credits and loans

http://www.jedco.gov.jo/joomla/index.php?option=com_content&view=article&id=493&Itemid=360&lang=en

- *NGOs*

EDAMA

Contact: Hala Zawati Ceo@edama.jo , Khalil Hijazin khijazin@edama.jo

<http://www.edama.jo/static/default.aspx>

Global Environment Facility (GEF) Small Grants Program

Contact: Munir Al-Adgham munir.adgham@undp.org , Lara Nassar

laran@unops.org

<http://www.thegef.org/gef/whatisgef>

Activities & Projects: <http://www.gef-sgp.org.jo/>

- **Lebanon**

- *Bank*

BankMed

Contact: <http://www.bankmed.com.lb/Pages/ContactUs.aspx>

<http://www.bankmed.com.lb/Pages/default.aspx>

Banque du Liban (Central Bank of Lebanon)

Contact: <http://www.bdl.gov.lb/bdl/Contact.htm>

<http://www.bdl.gov.lb/>

Activities & Projects: BDL is working with Ministry of Power, UNDP, the European Union (EU), and the Lebanese Center for Energy Conservation (LCEC) to provide potential investors in green technology, specifically in energy saving and renewable energy technology, with low cost financing and medium to long term maturities.

FransaBank

Contact: fsb@fransabank.com

<http://www.fransabank.com/English/Pages/default.aspx>

Activities & Projects: FransaBank launched the "The Power is Energy, Save It" campaign which included a series of energy loans that target both consumers and businesses.

Banque Libano-Francaise

Contact: info@eblf.com

<http://www.eblf.com/en/English-Home>

Ameen

Contact: info@ameen.com.lb

<http://www.ameen.com.lb/index2.php>

About: first Lebanese financial institution specialized in Microfinance

Activities & Projects: loans: <http://www.ameen.com.lb/business.htm>

- **Morocco**

- *Banks*

Fondation Banque Populaire Micro-Credit

Contact: http://www.fbpmc.ma/index.php?option=com_contact&view=contact&id=1&Itemid=78

<http://www.fbpmc.ma/>

- *Public institutions*

Centre Régional d'Investissement

Contact: Nidal Fakir nidalfakir@gmail.com

<http://www.maroc.ma/PortailInst/Fr/MenuGauche/Investir+au+Maroc/Appui+institucional+de+rigueur/Centres+r%C3%A9gionaux+d+investissement.htm>

- *NGOs*

Institution Marocaine d'Appui à la micro-entreprise

Contact: <http://www.inmaa.ma/contactez-nous.html?view=message&layout=message&pf=1>

<http://www.inmaa.ma/>

Activities & Projects: Loans: <http://www.inmaa.ma/nos-produits.html>

- *Trade associations*

Parc Industriel de Bouskoura

Contact: Mounir Benyahya pibcasa@menara.ma

<http://www.cfcim.org/appui-aux-entreprises/appui-pratique/parc-industriel-de-bouskoura.html>

IZDIHAR, Association des zones industrielles de SIDI BERNOUSSI

Contact: Siham El Khaddar siham.elkhaddar@izdihar.ma

<http://www.izdihar.ma/cmnee.php?id=1>

• **Spain**

- *Public organizations*

Barcelona Activa

<http://www.barcelonanetactiva.com/barcelonanetactiva/es/index.jsp>

Local Development Agency
Contact: barcelonactiva@barcelonactiva.cat

CPRAC

Centro de Actividad Regional para la Producción Limpia

<http://www.cprac.org/es/proyectos>

Contact: Francesca Culcasi fculcasi@cprac.org

Ecoemprededor XXI

<http://www.ecoemprededorxxi.es/index.php?mmod=staticContent&IDf=12>

programes.emprenedors@barcelonactiva.es

- *Incubators*

Glòries Business Incubator

Barcelona Activa

<http://www.barcelonanetactiva.com/barcelonanetactiva/en/growth-and-consolidation/incubators/index.jsp>

empresa@barcelonactiva.cat

- *Business Networks*

Ecoemprenedors.cat

<http://www.ecoemprenedors.cat/>

Red Empreende Verde

Fundación Biodiversidad

<http://www.redemprendeverde.es/>

• **Tunisia**

- *Banks*

Banque d'affaires de Tunisie

Contact: Mansour Tarek tarek.mansour@bat.com.tn

<http://www.bat-tunisie.com/en/index.html>

Banque International Arabe de Tunisie

Contact: Sethom Leila leila.sethom@biat.com.tn

http://www.biat.com.tn/biat/english/index_en.jsp

Banque Nationale Agricole

Contact: Saidi Salma salmasaidi14@yahoo.fr

<http://www.bna.com.tn/>

Activities & Projects: <http://www.bna.com.tn/entreprises/entreprise.asp>

Stusid Bank Tunis

Contact: Cherif Basma lechrif@gmail.com

<http://www.stusidbank.com.tn/site/publish/content/article.asp?id=160>

Activities & Projects:

- Loans

<http://www.stusidbank.com.tn/site/publish/content/article.asp?id=75>

Banque Tunisienne de Solidarite

Contact: Ben Younes Afifa afifaby@hotmail.fr
<http://www.bts.com.tn/>

Banque de financement des PME

Contact: Ben Zid Nain n.benzid@bfpme.com.tn
<http://www.bfpme.com.tn/index.php?lang=fr>

Immbank

Contact: Zerriaa Nouha nouha.gerriaa@immbank.org
<http://www.immbank.org/>

- *Consulting organizations*

Comete Engineering

Contact: Ghribi Maha Comete m.ghribi@comete.com.tn
<http://www.comete.com.tn/eng/index.htm>

Efficept

Contact: Ghannouchi Walid valid.ghannouchi@efficept.com
<http://efficept.com/home/>

- *NGOs*

Enda

Contact: Cammoun Meriem meriem.cammoun@endarabe.org.tn
<http://www.endarabe.org.tn/>
Activities & Projects: loans
http://www.endarabe.org.tn/index.php?option=com_content&view=article&id=181&Itemid=197&lang=en

- *Public institutions*

Centre International des Technologies de l'Environnement de Tunis

Contact: Houcem El Ayeb houcem_ayeb@yahoo.fr
www.citet.nat.tn
Activities & Projects:
- Assistance to industries
<http://www.citet.nat.tn/masc/?INSTANCE=CITET&SETLANGUAGE=EN>
- Green Development Business Services
<http://www.citet.nat.tn/masc/?INSTANCE=CITET&SETLANGUAGE=EN>

- *Trade associations*

Union Tunisienne de l'agriculture et de la peche

Contact: Saidani Mongi mongi.saidani@gmail.com
<http://www.utap.org.tn/>

Agence de promotion de l'industrie et de l'innovation

Contact: Garram Bakhta bakhta_55@yahoo.com
<http://www.tunisieindustrie.nat.tn/fr/home.asp>

- **Turkey**

- **Banks**

- Garanti Bank**

- Contact: http://www.garanti.com.tr/en/our_company/branches_and_paramatiks/headquarters.page?

- Web: <http://www.garanti.com.tr/en/index.page?>

- Activities & Projects:

- Sme loans: http://www.garanti.com.tr/en/sme_banking/loans.page?

- Industrial Development Bank of Turkey**

- Contact: Ece YILMAZER yilmazere@tskb.com.tr , Tulu ERTEM

- ertemt@tskb.com.tr

- <http://www.tskb.com/>

- Activities & Projects:

- sustainable banking

- http://www.tskb.com/Sustainable_Banking/detail.aspx?SectionID=oWFAQB2gJ7sD5oaCxAl13A%3d%3d&ContentId=Rgd4MMN2GUMj4zt7GkFO4Q%3d%3d

- renewable energy and environmental loans

- http://www.tskb.com/Corporate_Lending_Project_Finance/detail.aspx?SectionID=e7oOqFs4OjLFuLo6ofnyA%3d%3d&ContentId=QWC4jSYGR3VO26yBLYIY8w%3d%3d

- Finansbank**

- Contact: Ismet ERSOY ismet.ersoy@finansbank.com.tr

- http://www.finansbank.com.tr/en/default.aspx?FBAS_ENG

- Isbank**

- Contact: Derya GULSOY Derya.gulsoy@isbank.com.tr

- <http://www.isbank.com.tr/English/>

- Akbank**

- Contact: Cenk TURKER cenk.turker@windowslive.com

- http://www.akbank.com/index_en.html

- Development Bank of Turkey**

- Contact: Serkan ÖZDEMİR serkan.ozdemir@kalkinma.com.tr

- <http://english.kalkinma.com.tr/>

- Activities & Projects:

- World Bank Renewable Energy and Energy Efficiency Loan

- <http://english.kalkinma.com.tr/world-bank-renewable-energy-and-energy-efficiency-loan.aspx>

- European Investment Bank Sme Development Loan

- <http://english.kalkinma.com.tr/european-investment-bank-sme-development-loan.aspx>

- Vakifbank**

- Contact: Haydar MUTLUAY Haydar.mutluay@vakifbank.com.tr

- <http://www.vakifbank.com.tr/home-page.aspx?1238>

- *Consulting organizations*

Csr Consulting

Contact: Çiğdem ŞEFTALIOĞLU cigdem@csrconsulting.nl
<http://www.csrconsulting.nl/>

- *Public institutions*

Capital Markets Board of Turkey

Contact: Bora ORUÇ bora.oruc@spk.gov.tr
<http://www.cmb.gov.tr/index.aspx>

• **International Organizations**

African Development Bank group

Contact: Alexis Rwabizambuga a.rwabizambuga@afdb.org
Country: Tunisia, Africa
<http://www.afdb.org/en/>

European Investment Bank

Contact: <http://www.eib.org/infocentre/contact/index.htm>
<http://www.eib.org/>
Renewable energy: <http://www.eib.org/products/elena/index.htm>
Responsible Investors: http://www.eib.org/investor_relations/sri/index.htm

International Finance Corporation of the World Bank

http://www1.ifc.org/wps/wcm/connect/corp_ext_content/ifc_external_corporate_site/home

Contact:

http://www1.ifc.org/wps/wcm/connect/corp_ext_content/ifc_external_corporate_site/about+ifc/contacts

Activities & Projects: Sustainable and Inclusive Investing: IFC's Sustainable and Inclusive Investing teams aim to mobilize institutional capital into sustainable and inclusive equity funds and indices by working with: 1) firms to identify and report; 2) investors to recognize; and 3) markets to reward sustainable and inclusive business practices.

I2BF Global Ventures

<http://www.i2bf.com/>
Contact: <http://www.i2bf.com/contact-us>

About: International clean technology venture capital firm with a global investment mandate, based in New York.

Vitas

<http://www.vitasgroup.com/>
Contact: http://www.vitasgroup.com/?page_id=92
About: commercial holding company created by CHF International that provide financial products and services

Sanabel the Microfinance Network of Arab Countries

<http://www.sanabelnetwork.org/home/default.aspx>
Contact: <http://www.sanabelnetwork.org/Home/contactus.aspx>

Mix Market

<http://www.mixmarket.org/>

Contact: info@themix.org

About: global information platform on Microfinance

4.2 Non Mediterranean Countries

- **Germany**

- *Consulting organizations*

Adelphi

<http://www.adelphi.de/en/start/aktuell/43496.php>

Contact: Rainer Agster agster@adelphi.de

PREMA Profitable Environmental Management Network

<http://premanet.net/>

Contact: +49 (0) 228-6047-10

http://premanet.net/index.php?option=com_contact&view=contact&id=1&Itemid=48

- *NGOs*

GIZ - Deutsche Gesellschaft für Internationale Zusammenarbeit

<http://www.giz.de/en/>

Contact: <http://www.giz.de/en/html/contact.html>

- **Japan**

- *Banks*

Japan Bank for International Cooperation

<http://www.jbic.go.jp/en/index.html>

Contact: <https://www.jbic.go.jp/en/contact/contact.php>

Activities & Projects:

- Loans <http://www.jbic.go.jp/en/finance/>

- **Netherlands**

- *Consulting organizations*

enviu

<http://enviu.org/>

Contact: Oriol Pascual oriol@enviu.org

- *Incubators*

Dnamo Incubator

<http://www.dnamo.nl/>

Contact: info@dnamo.nl

Yes!Delft

<http://www.yesdelft.com/IncubationCentre.aspx>

- **Switzerland**

- *Social entrepreneurship*

Schwab Foundation for Social Entrepreneurship

<http://www.schwabfound.org>

A global platform to promote social entrepreneurship as a key element to advance societies and address social problems.

- **United Kingdom**

- *Awards*

International Green Awards

<http://www.greenawards.com/>

- **USA**

- **Consulting organizations**

GreenVc

<http://www.greenvc.org/>

Contact: info@greenvc.org

Green VC connects entrepreneurs interested in environmental or social responsibility with information and resources to help them succeed. The website currently features a directory of funding sources, events calendar,

and news on investments in enterprises that focus on environmental or social responsibility.

Echoing Green

<http://www.echoinggreen.org/about/connect-with-us>

Contact: info@echoinggreen.org

Fellowship, workshops, on line platform, Special Investment Council, special advisors,...

Skoll Foundation

<http://www.skollfoundation.org/>

Contact: info@skollfoundation.org.

The Skoll Foundation drives large scale change by investing in, connecting and celebrating social entrepreneurs and the innovators who help them solve the world's most pressing problems.

Unreasonable Institute

<http://www.unreasonableinstitute.org>

Contact: wisdom@unreasonableinstitute.org

International Accelerator & Investor in High-Impact Entrepreneurs

4.3 Other Resources

- **Portal, Networks, Forum ...**

Ashoka International

Ashoka Global Headquarters (USA)

<http://www.ashoka.org/>

Change Fusion

Country: Thailand

<http://www.changefusion.org/>

SweepNet

<http://www.sweep-net.org/>

Contact: contact@sweep-net.org

Country: Tunisia

The Hub Network

Local hubs in more than 25 cities around the world

<http://www.the-hub.net/>

Mediterranean Green Development Investors Forum

<http://www.ftbusinessevents.com/Home.asp>

Contact: http://www.ftbusiness.com/contactus.asp?m_pid=0&m_nid=11274

Eurocharity (csr – green economy)

<http://www.eurocharity.eu/en/story/7000>

Contact: info@eurocharity.org

European Small Business Portal

http://ec.europa.eu/small-business/index_en.htm

Contact: ENTR-SMALL-BUSINESS@ec.europa.eu

Obtaining funding:

http://ec.europa.eu/small-business/funding-partners-public/finance/index_en.htm

Environment, Energy and Transport: http://ec.europa.eu/small-business/funding-partners-public/finance/environment-energy-transport/index_en.htm

Global Alliance for Banking on Values

Contact: mail@gabv.org

<http://www.gabv.org/>

About: The Global Alliance for Banking on Values is an independent network of banks using finance to deliver sustainable development for unserved people, communities and the environment.

- **Useful tools, Handbooks**

Handbook Finanziamenti agevolati per investimenti nel Mediterraneo (renewable energies)

http://www.impresambiente.intesasanpaolo.com/scriptWeb20/vetrina/content/Data/view/guida_energia_5.pdf?id=CNT-04-000000007AA2D&ct=application/pdf

About: For each country (MENA) describes the investment environment and the active financing program. Only in Italian.

- **Islamic Green Finance**

Abu Dhabi Islamic Bank (ADIB)

Contact: <http://www.adib.ae/contact-us>

<http://www.adib.ae/>

Activities & Projects: solar power projects in MENA

Gatehouse Bank UK-based Islamic investment bank

Contact: info@gatehousebank.com

<http://gatehousebank.com/index.html>

Gulf Bond and Sukuk Association

Contact: <http://www.gulfbondsukuk.com/contact-us.html>

<http://www.gulfbondsukuk.com/index.php>

Islamic Development Bank

Contact: http://www.isdb.org/irj/portal/anonymous/idb_contactus_en

<http://www.isdb.org/irj/portal/anonymous>

Annex I Sustainability Inventory

Generic **economic-financial** aspects to be considered for the strategic action plan.

ECONOMIC-FINANCIAL AREA	ASPECT
Classic economic-financial analysis	<ul style="list-style-type: none"> • Solvency • Stability • Economic profitability • Liquidity • Equity • Debt
Payments/charges	<ul style="list-style-type: none"> • Fair and flexible payment conditions for customers • In-time payments to providers • Wide and diverse portfolio of payment/charging options and time periods
Exchange of services	<ul style="list-style-type: none"> • Encouragement of service exchanges as a means to dematerialize ("demonetize") the economy. • Fair exchanges of services that create comparable value (Economy of Value)
Collaborative and distributed business models	<ul style="list-style-type: none"> • Quality networks of collaborators and contacts • Trust with stakeholders • Putting into practice of "all-to-all" philosophy: everybody a collaborator, client, provider, investor... • Sharing resources: knowledge, competences, finance, human resources... • Sharing risks: investments, new business lines, innovation... • Use/promotion of crowdsourcing to spur social innovation through collective intelligence (inside and outside the company) • Use/promotion of crowdfunding to raise funds, test prototypes and publicize the project
Ethical finance	<ul style="list-style-type: none"> • Promotion and use of ethical, socially responsible and sustainable financial institutions and investors • Socially responsible investing in aligned projects (similar mission

	and values)
Locality	<ul style="list-style-type: none"> • Boosting local economies: local or proximity products and services: buying local or proximity products and services • Providing own services/products locally or nearby
Green economy	<ul style="list-style-type: none"> • Boosting innovation for greener practices • Investment in green economy sectors: waste management, renewables, sustainable tourism, eco-agriculture, organic textile...
Other principles of good business/Economy of Value(s)	<ul style="list-style-type: none"> • Measurement of indirect economic impact: environmental & social impact • Promotion of real value economy vs virtual economy: measuring real positive contribution vs speculation or cost externalization

Generic **environmental** aspects to be considered for the strategic action plan (sector benchmarking and stakeholder consultation).

Derived from United Nations Statistics Division [United Nations Statistics Division, 2012] and the Global Reporting Initiative's [Global Reporting Initiative, 2012] compendiums of generic environmental aspects for businesses.

ENVIRONMENTAL AREA	ASPECT
Product/service design	<ul style="list-style-type: none"> • Design for Environment of product / services • Design for recycling • Durability, Repairability & Modularity of products / services
Production and use / supply of products/services	<ul style="list-style-type: none"> • Energy consumption by each activity process • Materials used by each activity process • Waste quantity generated by each activity process • Toxic and dangerous waste generated by each activity process • Renewable energy consumption rate • Water consumption by each activity process • Water rate of re-use • Wastewater generated (water discharged by quality and destination)
Management: administration, marketing & sales	<ul style="list-style-type: none"> • Selective waste management rate • Online & digital work system • Sales & High Management environmental impacts

Workspaces and facilities	<ul style="list-style-type: none"> • Direct soil occupied by the activity • Surface of offices, buildings, etc. • Energy consumption per facilities area • Green area surrounding the building and offices • Internal (offices, gardens etc) water consumption
Logistics, transportation and organisation	<ul style="list-style-type: none"> • Local Market Sales • Local Production • Efficient packaging system • Efficient logistics • Public transportation service connection with facilities • Modal split in urban and metropolitan commuting • Use of cycling as urban commuting
Quality, purchase and human resources	<ul style="list-style-type: none"> • Quality & Environmental Management System • Quality & Environmental Management System • Employees training on sustainable practices • Water consumption per employee • Energy consumption per employee • Green Supply Chain
People and environment	<ul style="list-style-type: none"> • People's (stakeholders) consciousness for environment • Local community environmental performances • Biodiversity affected by our activity
Eco-innovation and research	<ul style="list-style-type: none"> • Cradle to Cradle Design • Research on eco-innovation • Sustainable Design for Developing Countries
Other	<ul style="list-style-type: none"> • Greenhouse Gas Emission

Generic **social** aspects to be considered for the strategic action plan, especially for the stakeholder consultation (social value creation)

SOCIAL AREA	ASPECT
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Health & Well-being	<ul style="list-style-type: none"> • Healthy & hygienic workplace and operations in general • Regular physical activities • Good amount of sleep • Strict maximum of working hours • Long enough breaks (mental and physical rest) • Avoid excessive long-distance traveling • Promotion of telework • Use/promotion of public transport, bikes, walking...
Labor practices and decent work	<ul style="list-style-type: none"> • Fair wages and remunerations in general, adapted to the local cost of living • Access to medical services and insurances, social security, pensions, maternity... • Good working conditions: space, schedule, transportation, work-life balance... • Prioritize the well-being of workers and of humans in general
Communication	<ul style="list-style-type: none"> • Prioritize the well-being of workers and of humans in general • Enabling fluent and effective communication among co-workers • Regular participation and attendance to courses, workshops and educational events • Spending time in research, reading... • Identification, acknowledgement of mistakes made and design of strategies for improvement • Constant observation and learning from others, other species, the environment, daily situations -> continuous self-improvement
Cultural and leisure activities	<ul style="list-style-type: none"> • Frequent practice of teams sports for health, fun, and team building • Regular attendance to cultural events and activities with co-workers, collaborators...
Work-life balance	<ul style="list-style-type: none"> • Speaking with everybody of a variety of issues, aside from professional field: multidimensionality • Flexible work Schedule • 4-days working weeks, 3 days of rest • Long holiday periods (at least 2 months in total) and flexibility in

	<p>arrangements</p> <ul style="list-style-type: none"> • Organizing and attending only early networking events (avoid late-afternoon or early evening)
Diversity and equal opportunity	<ul style="list-style-type: none"> • Equal pay for equal work • Encouragement of diversity at workplace and among stakeholders: cultures, backgrounds, ideas, mindsets, lifestyles, etc. • Common destiny, shared responsibility, different contributions. Special attention to the different but shared needs from different people and, especially, different gender or age • Inclusiveness of different points of view • Respect and mutual understanding & embracing of differences
Motivation	<ul style="list-style-type: none"> • Task, role and field rotation among team members, co-workers, collaborators, etc. • Strong promotion of innovation, creativity, freedom of expression in the artistic, natural or personal
Leadership	<ul style="list-style-type: none"> • Applying innovative good practices in our own project • Walking the talk (leading by example) • Fostering good (sustainable and responsible) practices in our stakeholders: customers, providers, collaborators, local communities...
Management	<ul style="list-style-type: none"> • Horizontality in the organization • Democratic decision-making • Team spirit • Motivation
Transparency	<ul style="list-style-type: none"> • Overall openness of organization to non members • Disclosure and accessibility of important information: projects, tariffs, accounts... • Sharing of knowledge, info or ideas with collaborators, general public... • Use of open-source software and open licences (Creative Commons...) • Accountability
Human rights	<ul style="list-style-type: none"> • Strict compliance with human rights declaration

	<ul style="list-style-type: none"> • Pushing collaborators and other stakeholders to conform with human rights • Leading the way as advocate of human rights and proposer of new ones
Community and social relations	<ul style="list-style-type: none"> • Establishing personal bonds with team (a big family) and the rest of the stakeholders (clients, collaborators, providers, investors...) • Frequent networking activities both formal and informal • Participation in social & environmental movements • Participation in social & environmental movements • Diversity at work: cultural, professional, gender, philosophical
Public policy	<ul style="list-style-type: none"> • Fluent communication with external stakeholders • Transparency and honesty • Pursuit of stakeholder engagement through incentive-based participatory mechanisms • Search for the common good: vision of private enterprises as agents of change for social welfare • Promotion of collectivity: resources, sharing, co-management, etc.

BOSNIA AND HERZEGOVINA

Country	Bosnia and Herzegovina
City	Sarajevo
Project name	SPD HELJDA EKO SARAJEVO, LTD. <i>Production of organic buckwheat products</i>
Name of Entrepreneur	Samir Mehonić

Description

"HELJDA EKO" Sarajevo is recognizable company in the domestic and foreign markets as one of the BiH company that deals exclusively with organic food production. They gained a reputation in an effort to maintain an organic way of growing buckwheat, calendula, artichokes and other medicinal herbs, and in this way ensure the quality of their products. "Heljda EKO" Sarajevo is a domestic company that is involved in production, processing and sale.

Investment

Startup capital: Business began with no working capital and fixed assets. The initial capital was of modest wages of the founder.

Rate of return on investment: not available.

Sources of funding: Sale of organic products.

Stakeholders

Organic farmers, NGOs, local government, consumers of organic products in the country and abroad, commercial centers that sell the products.

Employment generation

4 people full time, plus 10 seasonal worker.

Timeline

- 2000 Start with the organic production of buckwheat in the mountain environment.
- 2003 Received certification according to "KRAV" standards, certified by IFOAM (International Foundation for Organic Agricultural Movement).
- 2004 Opening of Shop of Agricultural business, "Heljda eko" Raštelica.
- 2006 Opening of specialized Agricultural Cooperative "ZZ Heljda eko".
- 2011 Opening of healthy organic food shop.
- 2012 Plans to officially open eco restaurant.

Feasibility Study

Feasibility Study or any other type of study was not conducted prior to starting a business. The founders have developed their business step by step, with a few good results at a time.

Key features

Organic farm HELJDA EKO takes pride of the quality and authenticity of their products. Their product range comprises of 3 groups with over 60 types of different products: food products, preparations based on medicinal herbs, products made on the basis of buckwheat scales: neck pillows, eye masks, bedding for kids and adults, etc.

Overall rationale and motivation

Their slogan "Back to the nature" speaks enough about the motive, which initiated individual and group energy in order that the project of growing buckwheat experiences success in BiH.

Strengths

In BiH, prospects for cultivation are huge, although it is a difficult and painstaking job during the season which requires 20 hours a day of work, but it is not difficult if the circle for the placement of the final product is not closed. Buckwheat cannot be produced in the lowlands, only in the highlands, and BiH has high plateaus of 700 meters above sea level, which should be used for this purpose.

Challenges and constraints

Not enough support from the government to promote this type of production abroad. In order to develop organic production and meet the market needs, it is necessary to make a symbiosis between the relevant ministries and producers and manufacturers.

Direct activities and impact

Social:

All the employees are from the local community. The associates of the project come from all across the country. Education at all levels of employees in HELJDA EKO is free and "man-oriented".

Environmental:

Buckwheat is a medicinal plant and during ten years of work in our production there is no waste - everything is usable. They have, so called, closed-circuit production of buckwheat and herbs to the end product. In this circle, all is exploited and everything is in touch with nature.

Economic:

The project has stimulated economic development within the community. Directly and indirectly, the company employs about 100 people.

Use of innovative technologies

Facebook, webpage of the company and e-mail.

Evidence of a holistic approach/world view

HELJDA EKO is the biggest producer of buckwheat and other organic products in the country. The area of former Yugoslavia is interested in all of their products, as well as Sweden, Germany, Italy, Australia, etc.

Scale of benefits

100 cooperative subcontractors throughout BiH; The largest collection and redemption center of buckwheat in BiH, population in B&H educated on the benefit of products of buckwheat; the products exported to Australia, Sweden, Croatia and Slovenia.

Policies, incentives and regulations needed

Producers of organic, eco and bio products should joint in one association on the state level.

Lessons and recommendations

Hopefully, the positive example of HELJDA EKO will be guiding for the prosperity of organic agriculture in BiH.

References

<http://www.heljdaeko.com>

<http://www.facebook.com/heljda-eko-organska-proizvodnja>

<http://heljdaeko.blogspot.ba>

EGYPT

Country	Egypt
City	Siwa Oasis
Project name	TAZIRY ECOLODGE Ghazalat Siwa for Touristic Development <i>Sustainable ecotourism lodge in Egypt</i>
Name of Entrepreneur	Faisal Chaabi

Description

Taziry village is a sustainable development project achieved in 3 different ways: cultural heritage, environment awareness and livelihood improvement. The traditional Siwan method of construction is used for the buildings, based on natural, environment friendly materials and design. These include a mosque and renovated old houses with rooftop terraces overlooking the whole city. Candles and oil lamps are used for lighting with solar energy solutions to be implemented for water heating and other energy purposes. An organic farm produces bovines, poultry and fish, cereal grains, fruits and vegetables used in the 100% organic ecolodge kitchen. Taziry also works closely with the community through education and fair trade principles to encourage a shift to organic agriculture and is soon launching a solid waste management program. The project breeds pure Arabian horses and camels ridden by guests, a library is being completed to enable scholars from Siwa and around the world learn poetry, calligraphy, astrology etc. A gallery of artifacts and market place for local Siwan products to be marketed inside and outside Egypt are also being developed to revive the local craftsmanship and art techniques.

Investment

No information provided.

Stakeholders

Local NGOs, Consultants, Partners, Entrepreneurs.

Employment generation

7 in Head office (Project Management, Marketing, Development, Finance and Reservations), 20 in Ecolodge (Cooking, Cleaning, Managing Horses, Managing Camels, Security, Agriculture, Tour guide), 1 local consultant, Up to 80 Traditional Construction Workers.

Timeline

2007-2009	Ecolodge construction
2009-2010	Training Team and setting up initial Plans
2010-2012	Waste Management, Local Product Marketing, Organic Agriculture and Culture Development Projects started.

Feasibility Study

Feasibility study for individual projects in process, working with local communities to ensure a relationship that encompasses clear and targeted solutions to the current challenges. The following initiatives are planned; 1) 50 shops in Taziry for showcasing the local Siwan products and support the marketing and transportation of Siwan products to Cairo and Alexandria. 2) Solid Waste Management System that properly applies organic and non organic waste collection 3) Local production of Organic Siwan Dates and Olives by forming a union of organic farms in Siwa, 4) acquiring global certifications and creating partnerships through the Taziry Library and gallery, creating educational programs in partnership with the local NGOs for the Siwan youth and 5) Supporting social Entrepreneurship projects.

Key features

Environment Protection, Cultural Sustainability and Livelihood Development.

Overall rationale and motivation

Siwa is losing its culture and richness due to the effect of modernization lately affecting the Oasis without the proper education and culture sustainability projects. A key motivation is to implement the correct initiatives that will sustain the Siwan culture and outlook, protect the environment, and ensure the development of the community without losing its original essence. Taziry presents its guests with the traditional local outlook of Siwa and educates the local community on the richness of their ancestors.

Strengths

Strong local connection and trust, financing, partnerships, government support.

Challenges and constraints

Modernization and disorganized construction and architecture, growth of non-organic farming and mechanic utilization due to market demands replacing local hand crafts and arts.

Direct activities and impact

Social:

Culture Development Projects, Gallery, Library, Local Hand Crafts, Educational Programs in place and strong partnerships with the local community, NGOs and the City Council

Environmental:

Waste Management System in place, Tour Guide Trainings, and Public Awareness Activities.

Economic:

50 Local Shops for Hand Crafts, Marketing and Transportation of Siwan Products to Cairo and Alexandria as phase one and expanding to global exporting.

Use of innovative technologies

Facebook, Twitter and websites.

Evidence of a holistic approach/world view

A single goal of sustaining the local culture, protecting the environment and livelihood development.

Scale of benefits

The project aims to benefit the population by implementing awareness campaigns on agriculture, tourism and livelihood development support, cultural and environmental education workshops, a Waste Management System, training on business, direct partnerships with 50+ families to market Siwan products, a union of organic farm owners and training on how to grow their business as a single entity.

Policies, incentives and regulations needed

Licensing and Registrations to all needed formal actions.

Lessons and recommendations

Have a clear goal that's needed and its importance is realized by everyone within the community, then all challenges will have their solutions.

References

www.taziry.com

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[http://twitter.com/taziry](https://twitter.com/taziry)

GREECE

Country	Greece
City	Athens
Project name	GAEA PRODUCTS S.A. <i>Greek food products with organic, low footprint innovations.</i>
Name of Entrepreneur	Aris Kefalogiannis founded the company with two others

Description

A manufacturing and distribution company of authentic, high quality traditional Greek products with a vision of being the leading Greek brand promoting Greek cuisine and lifestyles internationally. The main products are olive oil, spreads, vinegar, olives and other ingredients needed to produce a "mezze". 100% of products are produced and packed in Greece. Distribution is mainly international to the UK, China, US and other European countries with a small amount of distribution in Greece.

Investment

Start up capital: 100,000€ start up capital and other investors later on, currently 10% of the venture capital is from US and Russia

Rate of return on investment: Return on Equity before tax 40%

Sources of funding: 18% Greek, 82% international, majority Europe (with Germany, UK, Scandinavia markets representing 65% of turnover)

There are currently 25 shareholders, Gaea has always relied on outside investors, rare in Greece where most companies are family owned. The option was chosen to be able to grow fast, keeping a smaller part of the company but ensuring steady growth on solid foundations.

Stakeholders

A consultant in the UK who had the initial idea, the company's first investor (a company listed in Athens stock exchange), the first client a supermarket chain – Waitrose, family (helped financially), branding team London Design Partnership, the first distributor (a UK distributor).

Employment generation

50 people in total, 28 factory workers and 22 admin/skills management. The company has an ethical working standard, SMETA.

Timeline

- 1994 Initial idea, design and branding
- 1995 Started trading in the UK, first investment, first olive packaging plant
- 1998 Started first olive oil factory
- 2000 Started selling in Greece (previously abroad), institutional investor bought 1/3 of the company

- 2003 Created current factory with 3 production lines, (currently there are 4)
- 2009 Launched carbon neutral olive oil – started the environmental policy
- 2010 Launched innovative brand of snacking olive with no liquid, low salinity, 12 months of life outside the fridge, no preservatives
- 2011 Study for first carbon neutral olive, water footprint study (shortly to be announced)

Feasibility Study

The main analysis was to identify the reasons why Greek products were not on the shelves in the UK (branding and presentation reasons as well as lack of consistency in quality and supply). Once these reasons were addressed the core business was envisioned to fill these gaps.

Geo-social-economic setting

The main markets are in developing countries (UK, Scandinavia, Germany), as the product is premium, a smaller market has opened in Greece.

Key features

Quality, authenticity, innovation, sustainability.

Overall rationale and motivation

To become the leading Greek brand promoting Greek cuisine and lifestyles internationally.

Strengths

Open minded and innovative, investing in research and innovation (no other Greek company does so), authentic in being Greek in terms of marketing, taste and quality, and Northern European in terms of work ethic, organization and delivery.

Challenges and constraints

Operating out of Greece where there is a lot of bureaucracy and the market is not very business friendly. The current financial situation and banking sector in Greece is also unfavourable to business.

Direct activities and impact

Social:

All suppliers have a long term contracts, the company has a standard in ethical working practice. Joint venture with agricultural cooperative in Crete.

Environmental:

22% of products are organic, world's first carbon neutral olive oil launched, ongoing innovations in reducing carbon and water footprints. Various prizes awarded for environmental innovation.

Economic:

2010 turnover €11,1m – growing on 15-20% p.a., the company has been profitable since 2007. Awarded various prizes for olives and olive oil.

Use of innovative technologies

Life cycle analysis of products to understand where the greatest carbon impact is of different products and then intervene to reduce this impact. In the case of olive oil and olives the highest carbon impact is in the production of fertilizers and pesticides so use of these products has been reduced. Olive oil product emissions are offset with "myclimate".

Currently working on a new water footprinting analysis for olive oils to identify where the greatest consumption occurs with a vision of being the leading Greek brand promoting Greek cuisine and lifestyles internationally.

Evidence of a holistic approach/world view

An open minded company, constantly changing and challenging current means of production to achieve higher quality and lower environmental impact.

Scale of benefits

€11,1m annual turnover, 50 staff and international distribution.

Policies, incentives and regulations needed

Introduce investor angels to Greece, where the banking sector only invests in assets and does not finance business plans it is very difficult for new companies to grow. Small scale, seed funding/venture capital is needed for social entrepreneurs. More research and development to challenge the traditional business models are needed.

Lessons and recommendations

A strong vision and a sound concept are more important than a business plan – with these two elements you will be able to withstand difficulties. Have patience and passion; the entrepreneurial phase requires both these and once the business is launched you need to apply sound management principles.

References

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ISRAEL

Country	Israel
City	Ramat Gan
Project name	ECOBIKE CYCLING VACATIONS <i>Israel's leading cycle Tour Company</i>
Name of Entrepreneur	Amir Rockman and Tomer Zaksenberg

Description

Bicycle tour company offering high quality cycling tours in Israel.

Investment

Start up capital: 8,500 US Dollars.

Rate of return on investment: Not applicable, used own funds to start up the business.

Sources of funding: Sale of tours.

Stakeholders

Family, travel agents, internet, a specific cycling NGO, trained tour guides.

Employment generation

3 full time, 4 freelance tour guides.

Timeline

Dec 2008 Set up business, launched website, first tour (only part time dedication from founders).

6 months – 2 years: full time positions

May 2010 Started to be profitable

Feasibility Study

The founders did research into what was already on offer in the tourism sector, and discovered a niche opportunity – to offer high quality bike tours in Israel. They saw a demand for their product - while cycling tours abroad for the Israeli market is popular, no one was offering this type of service within Israel.

Geo-social-economic setting

In Israel tourism is on the rise with currently 3.5m tourists visiting every year (up from 1m in 2007). Cycling is also rising by 10% every year.

Key features

A high quality customer oriented service that offers travellers the opportunity to see the real essence of Israel, an experience which you can't get from a typical plane or bus guided tour.

Overall rationale and motivation

The economic driver for this project is significant, as a clear business opportunity was identified, there is a clear demand for the product and therefore high prices can be charged. Another key motivation is to promote cycling as a more friendly way to travel, both environmentally and socially as people are much more likely to open their door to a tourist on a bike, than one who steps off a bus. Tour operations are also run in an environmentally friendly way (e.g. waste minimization in catering, avoiding use of plastic plates). Both founders are passionate about cycling and believe in their product.

Strengths

A unique, high quality product and customer oriented service and having in house infrastructure (bikes, van etc).

Challenges and constraints

Setting standards for the product – how hard should the tours be, what kind of hotel do people expect, what kind of food etc. Pricing was also a challenge to start with as there are no direct competitors to compare with. The lack of cycling infrastructure in Israel is a major challenge. Guide training is intense and requires considerable resources; the logistics is complex and reliant on highly trained staff.

Direct activities and impact

Social:

400 people have been on the one day tour and 100 on the longer tours.

Environmental:

Voluntary time has been dedicated to the Green Party and Cycling Alliance

Economic:

7 people are employed by the organization.

Use of innovative technologies

Facebook and Google ads are used to promote the organization. Facebook is considered as something the business “has to do”. GPS are used to map the routes. The company also owns a popular website and constantly receives client testimonials via TripAdvisor.

Evidence of a holistic approach/world view

Engaging tourism in Israel with a sustainable mode of travel. This is still seen as a totally unconventional idea, and others are genuinely surprised to know there is real demand for such a service.

Scale of benefits

7 people employed, over 500 customers to date, 350 friends on facebook.

Policies, incentives and regulations needed

Introduce investor angels to Greece, where the banking sector only invests in assets and does not finance business plans it is very difficult for new companies

to grow. Small scale, seed funding/venture capital is needed for social entrepreneurs. More research and development to challenge the traditional business models are needed.

Lessons and recommendations

Write a business plan before starting business. Don't disappoint clients with promises that can't be met, if you want to make your company sustainable - make sure you have the finances worked out.

References

www.ecobike.co.il,

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<http://www.jpost.com/LocalIsrael/TelAvivAndCenter/Article.aspx?id=183150>

http://www.tripadvisor.com/Attraction_Review-g293983-d1976647-Reviews-Bike_Jerusalem_Private_Tours-Jerusalem.html

ITALIA

Country	Italia
City	Rovereto
Project name	HABITECH
Name of Entrepreneur	Habitech is a consortium of 171 partners representing over 300 enterprises in the region (8.000 employees, €1bn turnover), alongside 15 research organisations and public sector bodies. The consortium was an idea of Gianluca Salvatori, who in 2006 was the regional Minister of research and innovation. Sergio Bortolotti is President, Gianni Lazzari is CEO, Thomas Miorin is Managing Director.

Description

Habitech is: a network of 300 companies focusing on exploiting sustainability to develop business, opportunities and community improvements; a national excellence hub for green building, energy and sustainable mobility; the technological District for energy and environment recognized by the Italian Ministry for University and Research; and a catalyst for green-business development. Habitech promoted the creation and incubated the Green Building Council Italy, a national association of leaders in sustainable building.

Investment

In spite of the role of public sector in triggering Habitech creation, Habitech was created as a private consortium. During the first 5 years, the public sector funded the consortium with 360 k€/year for its role in providing governance and market infrastructure to regional companies in the cleantech sector. Today the consortium is self-funded through services provided to the market with an annual turnover of 1.5 million euro and is still working as a regional point of reference.

Stakeholders

The network is comprised of 300 enterprises working in sustainable construction, mobility, and energy, with clients in Italy, Europe, North Africa and the Middle East. Another major stakeholder is the national association GBC Italia, with almost 600 members.

Employment generation

Habitech has 25 employees. The cluster generated employment in GBC Italia, with 15 employees and Manifattura Domani, with 5 employees. It is difficult to estimate overall job generation because Habitech intervenes on market infrastructure. They estimated 300 new and "replacement" jobs in the Autonomous Province of Trento alone. Across Italy around 150 professionals are accredited to work on LEED®, the rating system for sustainable building promoted by Habitech. In 2011, the estimated market value of the buildings

under LEED® Certification in Italy was about 2 billion euros with un-estimated job impact.

Timeline

Habitech was born in 2006 in Trentino, the Alpine region renowned for its attention towards sustainable development. It was created as an Energy and Environment Cluster by a consortium of 170 entrepreneurs representing 300 enterprises that wanted to pool together resources and capabilities. Soon enough, Habitech was developing projects, offering services for innovation, technical and commercial support for its enterprises and institutions, as well as for a broader network of clients. Habitech immediately developed the expertise and experience to organize and work within enterprise networks, stimulating cooperation among different businesses and the development of innovative projects. The first benchmark for Habitech in the field of sustainable construction was promoting the birth of the Green Building Council Italy. The GBC Italy, born in early 2008 in Trentino, is the association that, like the USGBC, is transforming the building market at a national level through the introduction of the LEED® standard. More than 550 companies, government agencies, research centers and businesses throughout Italy joined the non-profit association, based on voluntary participation of members. To date, more than 70 LEED® projects have been registered for certification from Italy and Habitech has already started offering designers and companies with new services to support LEED® certification, maintaining 50% of this market.

Feasibility Study

A feasibility study commissioned by the Autonomous Province of Trento, was performed in 2005.

Key words/Vision & Mission of the company

Sustainable construction; sustainable mobility; renewable energy; R&D; industrial district; sustainable innovation; market transformation.

Overall rationale and motivation

Habitech is one of those very Italian industrial districts that have become famous worldwide for their capacity to transcend the capitalist logic of competition and turn the market logic on its head. It is not only the point of reference for all its members when it comes to R&D, innovation and sustainable practices, but it has also become a beacon for many other industries in Italy and abroad. Cooperation, research, sustainability and innovation lie at the core of Habitech's value system, one which has proven to be able to generate resources and growth for its members and for the regional economy as a whole.

Strengths

Habitech's strengths are: not-for-profit organization providing services oriented to changing the market; systemic approach; young and motivated staff; leadership acknowledged for being the first mover in green building in Italy. Local environment - one of the greenest in Italy - is used as an innovation lab.

Challenges and constraints

Organisation self-sustained by the innovative services provided to the market. Services always have to be renewed and the identity of first mover is always under check.

Direct activities and impact

Essentially, Habitech operates in 3 areas: Green Building, Energy and Sustainable Mobility. Within these areas, it runs projects, offers services and supports innovation and technological development its firms and for outside clients.

The *Green Building* helps Italian companies to compete in a global context and have consolidated a system of expertise that enables them to offer global support services. Moreover Habitech launched ARCA, a new standard of quality for wood houses in order to support the local timber cluster: it is a certification scheme for architecture, comfort and environment designed to demonstrate the quality of wood buildings.

In the *Energy* field, Habitech divides its focus between energy efficiency and renewable sources.

Finally, in the *Mobility* sector, Habitech uses first class technology and worldwide best practices to approach the sustainable mobility issue in order to achieve system interventions to increase economic, social and environmental sustainability.

Use of innovative technologies

Not technology but methodologies:

- Local development approach
- Market transformation approach through standard and systemic actions
- The Natural Step framework

Defining sustainability in operational and measurable terms

Evidence of a holistic approach/world view

Even if in the external communication Habitech is speaking of green and sustainability, internally the organization is working on the perspective to create the first European network of regenerative companies, able not only to sustain and maintain the status quo but also to improve it.

Scale of benefits

Personal, enterprise, local, regional and national.

Policies, incentives and regulations needed

From a national perspective Habitech is working on market transformation towards a sustainability model that is economically convenient, sustainable for the market itself and a guide for innovation and that therefore has no need of policies, incentives or regulations. In order to accelerate transformation at the regional level, the Autonomous Province of Trento supported the green sector in the following ways:

- Green public procurement: all the new building of the Province will be LEED® certified (more than 300 million euro).
- Funds for research and innovation in green tech: about 50 million euros (25m followed directly by Habitech).

In 2009 to support the aims of Habitech the autonomous Province of Trento created Progetto Manifattura: a hub for clean technology created in a historic factory closed in 2008. The project will provide over 40,000 square meters of office space and light production modules. 3,000 square meters are available now and 2,000 more will be available in 2012.

Lessons and recommendations

- Avoid the "opportunistic pact" that transform consortiums and aggregations of enterprises in coalitions sharing out possibilities to companies.
- Take the challenge to start a constituting process aimed to create a new productive territory.
- Use a framework to define sustainability at a strategic level and at the operational level.

References

www.habitech.it

ITALIA

Country	Italia
City	Arco
Project name	AQUAFIL SPA
Name of Entrepreneur	Giulio Bonazzi, President and CEO

Description

The Aquafil Group operates in the chemical-textile sector, producing Polyamide 6 polymers used to produce yarn for carpet flooring (BCF), yarn for the textile sector (NTF) and engineering plastics (EP). The Group has always pursued a strong sustainable path and in 2007 it started implementing a strategy to reduce its environmental impact. In 2008 a fourth Business Unit, named Energy & Recycling, was set up. Its mission is:

1. To develop recycled products;
2. To promote the diffusion of renewable or low-impact energy;
3. To promote a culture of sustainability inside and outside the Group.

Thanks to a very deep assessment phase, the Group identified some useful process innovations in some areas, such as water, air emissions, waste and recycling, energy and fuel consumption. On these issues, the action of Aquafil was very effective leading to a remarkable impact reduction. Fully in line to its mission, the Econyl Recycling System was implemented: a recycled raw material coming from industrial and consumer waste.

Investment

From 2007 till 2010, the expenditure and the investment for the process innovation amounted about to € 13,8 Mio. At the same time, the construction of the Econyl Recycling System cost up today 17 MM Euro.

Stakeholders

Customers, suppliers, employees, local communities. Aquafil also cooperates with various universities both in Italy and abroad.

Employment generation

The integrated innovation process generates different skill-intensive jobs:

- About 10 people are employed for the analysis and the elaboration of the data on the sustainable development. Further, there are several specialized employees that are working in each productive site to implement the concrete process innovation.
- 10 employees are working in the R&D department, particularly to test the operations and the results of a pilot plant improving recycling mechanisms.
- More than 40 employees are working in the different phases of the Econyl Recycling System.

Timeline

N/A

Feasibility Study

The Aquafil Group identifies some areas where it would be possible to further reduce its environmental footprint and improve the Econyl Recycling System. As matter of fact, Aquafil is considering to double the size of the Econyl plant in Ljubljana, which will allow it to increase its capability to handle Polyamide 6 waste, and to raise the quantities of Econyl produced. In addition, the research team is working on a pilot plant that could allow important improvements in the productive process. Aside from the above-mentioned process improvements, Aquafil is planning the construction of solar and geo-thermal powered plants, which would increase the firm's ratio of energy coming from renewable sources.

Geo-social-economic setting

The borders of Aquafil's action follow the geographical localization of its production plants, which are located in three continents - Europe, Asia and North America - and in seven countries – Italy, Germany, Slovenia, Croatia, the US, China and Thailand. These countries are characterized by different socio-economic conditions, as well as different labour and health legislation. The Aquafil Group is paying a lot of attention towards harmonising life conditions in the different communities in which it operates, guaranteeing everywhere the same juridical, working and health protections. To reach this important result, the Aquafil Group identified in every plant the most important actions to implement, in order to reduce both the environmental and the socio-economic problems that could rise in the local communities.

Overall rationale and motivation

The borders of Aquafil's action follow the geographical localization of its production plants, which are located in three continents - Europe, Asia and North America - and in seven countries – Italy, Germany, Slovenia, Croatia, the US, China and Thailand. These countries are characterized by different socio-economic conditions, as well as different labour and health legislation. The Aquafil Group is paying a lot of attention towards harmonising life conditions in the different communities in which it operates, guaranteeing everywhere the same juridical, working and health protections. To reach this important result, the Aquafil Group identified in every plant the most important actions to implement, in order to reduce both the environmental and the socio-economic problems that could rise in the local communities.

Strengths

The growing innovation capability is an important characteristic for a firm that operates everyday on the international markets. It opens incredible opportunities for future transformations, preparing the firm, the employees and all stakeholders to the next challenges that will emerge in the economic world. This innovation drive is one of the most important characteristics of the Aquafil

Group, a real and concrete cornerstone that characterizes the past, the present and the future of the firm.

Challenges and constraints

the Aquafil Group will have to cope in the near future with some stimulating challenges, particularly related to concrete improvements of the Econyl Recycling System process, to the rationalization of its waste supply chain and to the diffusion, inside and outside the firm, of a deeper cultural awareness of what it is trying to achieve. These three subjects are strongly linked to each other, because they create the best environment in which to promote innovation processes and to transform activities.

Direct activities and impact

The Aquafil Group has developed some specific policies and activities that help it achieve its sustainability targets. With regards to the economic argument, the Aquafil Group is conscious that sustainability for a firm is not a cost, but a way to reduce costs. With this in mind, the Aquafil Group is implementing several projects: it is introducing renewable energy in all its Italian plants, it is installing solar panels in Italy and geo-thermal plants in the US, and it is improving its waste-management, packaging and water-consumption. From a social point of view the Aquafil Group is working carefully to guarantee the same rights, health & safety environment in all of its plants worldwide. At the same time, it is working to promote the reduction of injuries, accidents and sickness, but also to boost internal knowledge and respect for the cultures where its plants are located.

Use of innovative technologies

The Aquafil Group created a new technology to recycle and to up-cycle Polyamide 6 polymers derived from various types of waste. After some years of research and experimental tests, Aquafil's technicians, together with scientists from around the world, were able to build a new plant in Ljubljana, allowing Aquafil to achieve the incredible results described so far.

Evidence of a holistic approach/world view

The Aquafil Group strongly believes in the opportunity offered by the development of new business models that increase the well-being of firms and all stakeholders. Aquafil acts to maximize the firm's financial, social and environmental returns. Financial success is no longer the only measurement of the firm's performance, as it is now on a par with social and environmental impact: it is a guiding principle of Aquafil that a good firm will demonstrate strong performance in all three of these fields. This conceptual theory stems from the conviction that there are strong links and connections between a firm's action and the well-being of the citizens, local communities and environment where it is based.

Scale of benefits

From 2007 to 2010, the Aquafil Group collected a lot of data about its environmental footprint. Between these years, externally-purchased energy decreased by 3,7% and natural gas by 10,5%, while CO₂ emissions were cut by 31,2%. The same positive trend was showed by a reduction in water

consumption and in the share of non-recycled waste, both of which dropped considerably in these four years. At the same time, waste recovery through the Econyl Reclaiming Program meant that tons of Polyamide 6 materials did not end up in landfills, in the environment or in the incinerators. In addition, the use of recycled raw materials, instead of virgin one, also allowed to save 7 barrels of oil for each ton of polymers produced.

Policies, incentives and regulations needed

The Aquafil Group, in order to support its sustainability drive, could benefit from incentives directed towards its R&D activity, towards the use of low-impacting or renewable energy, and towards developing energy-saving technologies.

Lessons and recommendations

to promote real and concrete change in today's business models, based on technological innovation and sustainability principles, it is necessary that all elements of a firm be convinced about this transformation. From the head - the corporate management that defines the overall strategy - to the arms - the factory workers - everyone has to be committed to the objective of increasing the sustainability of the firm. It is fundamental in order to achieve these results to promote cultural change amongst all workers and employees, so as to make it easier to implement the necessary change in all production processes and behaviours.

References

<http://www.aquafil.com/>

MONTENEGRO

Country	Bosnia and Herzegovina
City	Danilovgrad
Project name	GARMIN DOO
Name of Entrepreneur	Dejan Brnović

Description

Production of various types of biodegradable bags, mini recycling old bags of which they produce inputs for biodegradable bags, paper packaging, paper bags, thermo foil rolls in dungarees, boutique bags and garbage bags.

Investment

In 2006 the company was founded. Production takes place in a rented space, and initial investments are secured by a loan. In 2008 the company invested in new building and modern equipment. Property and equipment are financed from loans and IRF Mne funds (the value of funds invested was around EUR 2,000,000.00).

Stakeholders

Large retail chains, but also all those who use the bags for the packaging of its products to end customers. Also the NGOs sector who are committed to the proper treatment of all the bags.

Employment generation

In the beginning the company employed 10 workers. By expanding markets the number of workers increased to 25. The company currently employs 46 workers, seven with university degrees, and the rest with a high school diploma.

Timeline

- Initially The company was located in rented space in Danilovgrad and distributed its products to MEX trading chain stores.
- 2007 Years they started expanding the market and began to cater to other retail chains operating in Montenegro.
- 2008 The regulation of eco-packaging was adopted and the company adjusted its production to bio-degradable bags.
- 2009 The company built its own facility in the municipality of Danilovgrad and purchased equipment for the production of environmental packaging.
- 2010 The company began to deal with a mini recycling bags from which, further, started obtaining inputs for bio-degradable bags.

Feasibility Study

The idea of the bag production was created by the current owners realizing that in Montenegro did not exist an organized production of bags and that the market is fully covered by imports.

Key features

The production is completely environmentally friendly and sustainable.

Products are in accordance with quality standards.

Bags degrade in one year, also used additives decompose bag within 90 – 120 days. The company carries out business of recycling used bags.

All products are controlled and have a certificate of health and micro-bacterial correctness of the Institute of Public Health and the Center for Environmental Health.

Overall rationale and motivation

To create a recognizable brand and promote ecologically sustainable operations in Montenegro.

Strengths

The business is conducted with respect to all environmental requirements.

They create a high quality and market-friendly products.

The production is unique in Montenegro.

Challenges and constraints

Unfair competition (poor control of production of these and similar bags, gray economy).

Payment problems hamper business.

It is very difficult to access the finances for micro and small enterprises in Montenegro.

Direct activities and impact

The relationship with suppliers is good and there is mutual satisfaction.

The company operates and develops an ethical way of doing business with everyone.

The products are environmentally friendly, with bio-friendly additives.

Since its establishment until today, the company constantly increased circulation of money.

Use of innovative technologies

For the production of biodegradable bags modern equipment is used. Machines that are used are highly productive and economical. Manufacture, agriculture is mostly automated.

The main ingredient mixture used for the manufacture of bags is an additive that is added to the decomposition bags. Additives are procured from Canada by the company "EPI", one of the leaders in the world in the production of additives for biodegradation.

Evidence of a holistic approach/world view

The company has HACCP i ISO 9001 certificates.

Scale of benefits

The turnover in 2010 was 1,000,000 EUR

The turnover in 2011 was 1,500,000 EUR

Policies, incentives and regulations needed

Support policies are reflected in specific incentives for the production of biodegradable products by government and relevant institutions in the field of entrepreneurship development. The state could invest more in the promotion of micro and small businesses. It also should promote more domestic products and thus reduce the import.

Lessons and recommendations

The company faces a difficult charge. Credit institutions must increase and support micro, small and medium enterprises which have the potential for a healthy business.

References

Contact: +382 20 815 045

E-mail: garmincg@t-com.me

Web site: www.garmin.co.me

MOROCCO

Country	Morocco
City	Meknes
Project name	O'DASSIA PEINTURES <i>Ecology in colors</i>
Name of Entrepreneur	Abdessamad Jennane

Description

O'DASSIA develops building paintings providing, in addition to the standard range of finishes (glossy, semi glossy, matte and decorative) entirely green and without the use of solvents. These environmentally friendly products do not expose the environment and human health to hazard caused by repeated use of solvents.

O'DASSIA products' are solvent free and entirely based on water.

Investment

The initial investment of the project is about 12 million MAD (1.1millionEuros). The turnover today is about 60 million MAD (5.5 million Euros).

Stakeholders

Buildings, decorative painters, industries.

Employment generation

65 permanent jobs.

Indirect jobs:

Timeline

2007 Lunching

Feasibility Study

The paint market in Morocco is highly competitive. Ecological paint market remains very lightly exploited. The proof on success of the project is that the company managed to achieve benefits in the second year of creation.

Key features

Creativity and commitment to environmental protection.

Challenges and constraints

Training in painting techniques without water.

Awareness about the harmful effects of solvents on human health and the environment.

Direct activities and impact

Quality and virtues of eco-friendly products (solvents free).
Environment protection.

Preserving the health of users.

Odorless products avoiding the inconvenience of applying.

Scale of benefits

Generation of direct and indirect employment. Preservation of the environment and human health, especially of decorative painters in direct contact with the product.

Policies, incentives and regulations needed

Eco-taxes, government support, training.

References

www.odassia.com

MOROCCO

Country	Morocco
City	Marrakech, El Haouz
Project name	GREEN CHIP <i>Electronic waste collection and redistribution in Morocco</i>
Name of Entrepreneur	Ismail Akalay

Description

CTT, a subsidiary of Managem, and in partnership with AL Jisr runs a workshop to collect, dismantle and sort precious metals, non ferrous metals, plastic and other waste, trains young people in metal and electronic recycling and recovers components from dismantling computers. The AL Jisr Association, through the Green Chip Pilot project undertakes to collect, dismantle and sort e-waste.

Investment

Start up capital: 2 million US\$ for the pilot project (CTT/ Managem and AL Jisr partnership) from Drosos a Swiss Foundation which accompanies monitoring and sustainability of the project.

Return on investment: Information not provided.

Sources of Funding: Current turnover of 1.5 to 2M US\$ and the larger Green Chip project projected at 12M US\$ turnover.

Stakeholders

Drosos, Ministry of Employment and Vocational Training, Ministry of National Education, International players in e-waste (UNEP; CEDARE; Step Initiative, Dell, HP), AL Jisr (working in partnership with CTT, a subsidiary of Managem).

Employment generation

CTT employs 24 people full time (1 engineer, 3 supervisors and 20 qualified operators). Over 150 people take part in dismantling and sorting, 80 – 100 for chips and non ferrous metals, and 65 to be trained for the dismantling and computer maintenance project (Green Chip).

Timeline

- 2008 Start of the recycling E-waste project in the Research Center of Managem
- 2009 Signature of partnership between CTT, a subsidiary of Managem and AL Jisr
- 2010 First workshop to collect and dismantle E-waste at Casablanca: Green Chip project.
- 2011 Starting of furnace plant for dismantled E-waste from Green chip
- 2011 Feasibility study of the major project 120 000 tons of E-waste per year
- 2012 Start of the major project Green Chip

Feasibility Study

Drosos audited CTT before giving the grant to Al Jisr. The Ministry of Employment and Vocational Training has approved the Training Center of Al Jisr and financially subsidized the project. The Ministry of National Education, through the Academy of Casablanca, allocated to the Project a 300 sq ft, located at Moulay Abdellah High School, to establish the workshop, and to provide one technical director and two supervisors. A separate feasibility study is underway for Green Chip.

Geo-social-economic setting

E-waste is contaminating soil and groundwater, currently not treated correctly and provoking serious diseases. E-waste recycling provides an opportunity for the recycling sector, and the Hydro metallurgical complex of Guemassa site includes different refining metal plants; cobalt, nickel, zinc, copper and precious metals (gold and silver).

Key features

Waste management, recycling, employment generation, training.

Overall rationale and motivation

Preservation of the environment by recycling part or all of the electronic waste, Training of school dropouts in the business of collecting and dismantling E-waste, Creating added value by recycling non-ferrous metals and precious metals, Develop of the recycling of E-waste activity in Morocco (ambitious project of 120 000 tons of E-waste per year). 65 young school dropouts will be trained each year in computer maintenance and will receive a technical diploma and support for employability and creation of microenterprises. 7000 PC will be upgraded by the students and made available to the public schools in rural areas, through sponsorships schools and businesses. _Disposal of 1500 tons of waste generated by technology information systems has grown dramatically in recent years. Waste recovery: converting an environmental constraint into products values (annual turnover: 1.5 to 2 MUSD) for the project pilot. More than 120 MUSD for the big project.

Strengths

Project Partnership: Al Jisr ensures the collection and dismantling, CTT provides processing and commercialisation. Strong support from several partners: Ministry of National Education, Ministry of Employment and Vocational Training and the Swiss foundation Drosos. Hydro metallurgical complex in Guemassa site has 6 metallurgical plants for the refining of metals (cobalt, copper, zinc, nickel and precious metal). Treatment capacity of the furnace: 100 tons de electronic cards / month, 2000 tons of E-waste per month.

Challenges and constraints

Mastery of the technology of the Electric Arc Furnace, newly introduced in our unit which requires recruitment of an engineer who specializes in this area.

Direct activities and impact

Social:

Training is provided to school dropouts (65 youngsters / year), with courses recognized and supported by the Ministry of Employment and Vocational Training and the Ministry of National Education.

Environmental:

Tonnes of electronic waste avoided going to landfill. Guemassa is certified ISO 14001 Environmental, ISO 9001 quality and OHSAS 18001 for health and safety, CTT has the CGEM Label for Corporate Social Responsibility with a Sustainable Development Policy in place since 2002. All of liquid and solid residues are recycled (0 waste).

Economic:

Provide opportunities for young people trained to create their own businesses (assistance, support and monitoring) Creation of employment with the new unit of computer waste recycling site Guemassa.

Use of innovative technologies

Electric arc furnace technology, experience in refining of precious metals and copper with the hydrometallurgical industrial units.

Evidence of a holistic approach/world view

Emphasis on education, training and empowerment.

Policies, incentives and regulations needed

For the major project, we must work aspects regulatory Morocco and abroad, authorization to import waste and regulatory requirements in Morocco.

Lessons and recommendations

A process has been discovered to transform environmental constraints into real economic opportunities, make Morocco a pioneer in the field of recycling E-waste. Consolidate and improve the rate of collection and dismantling of the Green Chip Workshop, seek other partners, to expand the scope of supply of waste computer equipment, building additional workshops dismantling waste computer equipment in the eastern and southern Morocco.

References

www.unctad.org/trade_env/greeneconomy/RTR20/part4RTR.pdf

SPAIN

Country	Spain
City	Barcelona
Project name	CONCEPTO VERDING S.L. <i>New Spanish brand of fair trade, organic underwear</i>
Name of Entrepreneur	Alberto Fernandez, Yazmin Garcia

Description

Online shop for affordable green products with a new line of organic underwear distributed through more than 15 shops in Spain. In addition environmental marketing consultancy services offered. Overall aim to make contributing to the environment more accessible.

Investment

Start up capital: Contributions from the founders and bank loans.

Rate of return on investment: Not applicable.

Sources of funding: Current income from the sale of the new line of underwear online shop sales and a consultancy services.

Stakeholders

Triodos Bank (gave advice not funding), friends who helped to test the products, consumer groups

Employment generation

3 full times, 9 contracted externally for specific services.

Timeline

2003 Initial idea.

2008 Founded the business.

2009 Opened the website.

2010 Presented the new line of organic underwear at the German fair Biofach.

Feasibility Study

Research on individual organic habits/consumption undertaken for several years, consumer groups were held to test the products and concepts, products were also tested on family and friends, research carried out with German, French and UK businesses producing underwear as well as organic clothing companies. A niche market for organic underwear was discovered through this process and an analysis made of the competition as well as suppliers.

Geo-social-economic setting

The niche market for organic underwear in the first phase is in Germany and Nordic countries, the online web has a local (Spain) market. The decision was made to target the online shop at Spanish consumers where a niche for affordable green products has been identified, given the current economic climate in Spain this was considered important.

Key features

Affordability and strong environmental criteria, backed up by certifications and standards of the highest level.

Overall rationale and motivation

A personal motivation to leave a positive impact in society, after many years working in advertising for multinationals. There is also a specific environmental driver to reduce the impact of the business, maintaining a close relationship with all suppliers, encouraging them to also certify themselves with relevant environmental criteria. Suppliers include producers of organic cotton from Greece, textile production with a company in Alicante, dyes in Barcelona, manufacturing in Barcelona and Malaga.

Strengths

Understanding of the organic market, with clear understanding of the characteristics of consumers of these products, good relationship with suppliers, environmental characteristics of the products, clear vision and overall commitment. The first company in Spain to be certified with the GOTS standard (Global Organic Textile Standard).

Challenges and constraints

Financial resources to grow and ability to convince suppliers to acquire environmental certification and encouraging them to see the long term business advantage of investing in their own environmental credibility.

Direct activities and impact

Social:

3 full time jobs, and 9 subcontractors, Fair Trade Labelled products, material cut offs are donated to an NGO in Girona working with individuals with learning difficulties. Long term relationships are established with suppliers, supporting those developing social benefits for their workers.

Environmental:

Use of recycled material for packaging, organic cotton for underwear line, first GOT certified business in Spain. Suppliers are encouraged to adopt organic certification or other environmental standards.

Economic:

Working only with Spanish supplies in very bad economic situation due to the fashion/textile business working process moved to cheaper countries.

Use of innovative technologies

Use of web 2.0 to stimulate interaction with clients.

Research and development in how to reduce the environmental footprint of production, including looking at how to incorporate natural materials into the zips and other clothing accessories to avoid the use of polyamide. Constant research into how to improve organic clothing in terms of colour, resistance and health.

Evidence of a holistic approach/world view

Both founders received training through the Triform Institute and follow a philosophy of Anthroposophy in the business, where there is no individual visionary, rather everyone is involved and committed.

Scale of benefits

Organic underwear line on sale in more than 15 shops in Spain.

Policies, incentives and regulations needed

The government should give free reign, and not interfere in this kind of business. More conscious consumers who really stop to think before they buy would help the business grow.

Lessons and recommendations

Do things you really believe in and get to know your market really well before starting.

References

www.conceptoverding.com

www.verding.es

SPAIN

Country	Spain
City	Castelldefels
Project name	COMPOSTADORES <i>Sustainable composting units and services in Spain</i>
Name of Entrepreneur	Eugeni Castejón

Description

A company that manufactures and distributes modular composting units and other associated products for homes, schools, public organisations and businesses. The composting units are made from 100% recycled material, can be adapted to different capacities according to clients needs and can also be used as containers for urban gardens and events.

Investment

Start-up capital. All initial funding was provided by the entrepreneur and prizes awarded. In 2010, a venture capital firm bought 14% of the shares and in 2011 the company is seeking a second round of international investment.

Return on investment: No information provided.

Sources of funding. Until 2010 80% of income was generated through public clients, and 20% through private. However, in 2011 the company has enhanced its focus on the private sector and expects private sector business to reach 50% of total revenue.

Stakeholders

Clients: Businesses, public sector, educational institutions, individuals

Suppliers: Demand for sustainability in the entire supply chain

Investors: Scalable, global, and cost-effective business with a triple bottom line: people, planet, and profit.

Public institutions: The company contributes eco-efficient solutions by recycling plastics, reducing CO₂ emissions, recycling organic material and enhancing biodiversity.

The company has received awards and recognitions in various business areas, environmental protection and Corporate Social Responsibility.

Employment generation

12 full time employees. They expect to double their workforce with new investments in 2012.

Timeline

2000	Eugeni began composting at his home
2002	Eugeni founded the business
2002 – 2007	Distribution of imported composting units from other countries (Italy, Australia, France, Austria and Germany)

2007 – 2009	Research and development phase to develop a composting unit to be manufactured in Barcelona, exports to other countries begin (Portugal, Bulgaria, France)
2009	Design readjustments and testing of composting units
2010	Record number of units sold
2011	Potential for internationalization of business

Feasibility Study

A business model was developed using the local City Council's business plan model (Barcelona Activa). During the first four years the business completed all objectives set in the plan, doubling their income annually. If a more detailed analysis had been carried out it is possible the business would have never been launched.

Geo-social-economic setting

A large generation of plastic and organic waste exists. There is also ignorance of the advantages that the Combox contributes to solve this problem by preventing production of these waste products and converting them into resources.

Key features

Strong environmental ethic, waste minimization with closed cycles enabling organic waste to be managed by individuals and organizations, avoiding waste to landfill. Flexibility and practicality of the product.

Overall rationale and motivation

After seeing the practical benefits of composting at home Eugeni was inspired to spread this culture further as well as create a sustainable business. The environmental driver is to reduce waste to landfill. In addition, considerable design efforts were made to ensure the product itself was sustainable, using 100% recycled plastic as the raw material, and ensuring its size fits on EU standard distribution pallets to ensure efficiency in distribution. Create a sustainable business model, initially importing products to gain clients and reputation and subsequently manufacturing the product.

Strengths

Accumulated experience over 9 years and specialization of the company in a specific product. While there are now other organizations in Spain importing similar products there currently does not exist any other model with the level of sustainability and personalization as the Combox. There is growing interest from the private sector.

Challenges and constraints

Product design, which took many attempts to reach the ideal solution, lack of support and vision from public institutions as clients – in other countries similar companies are far more successful, setting up the business alone. The need for investment in key areas by incorporating new talent. Greater financial strength and investment capacity are necessary.

Direct activities and impact

Social:

The 12 employees have entirely flexible hours all year round and work towards their objectives rather than completing a fixed timetable.

Environmental:

The main product is made from 100% recycled plastic and in itself avoids waste to landfill.

Economic:

The company has received various entrepreneurship and environment prizes. The founder has initiated a process to create a business organization of eco-entrepreneurs in Catalunya with other companies.

Use of innovative technologies

Exclusivity in the usage of post-consumer recycled plastic through an internationally patented eco-efficient technology.

Evidence of a holistic approach/world view

A closed loop vision, whereby waste is avoided from landfill to make a product which provides a recycling service for organic waste. "Cradle-to-Cradle" Design

Policies, incentives and regulations needed

Green public procurement policies and practice, vision and ambition from the administration. Give entrepreneurs prizes that give them visibility and credibility as well as open doors to potential clients and other key stakeholders. Prizes are more useful than subsidies which do not act as incentives for excellence.

Lessons and recommendations

Develop green enterprises with others; choose people with talent to work with, not with family and friends. Look for partners who complement your brand.

References

www.compostadores.com

SPAIN

Country	Spain
City	Barcelona
Project name	ECO INTELLIGENT GROWTH (EIG) <i>Eco Intelligent Growth: cradle to cradle and sustainable design services in Spain</i>
Name of Entrepreneur	Ignasi Cubiñà, Jordi Monjo, Guillermo de Arquer and Albert Pradell were the co-founding team.

Description

EIG offers sustainable design and industrial ecology services specializing – but not restricted - in architecture and urban design, inspired by the concept of Cradle to Cradle (C2C). The company is the only accredited organization in Spain to offer C2C certification assessment, and also manages LEED projects to help organizations certify their buildings under this US based certification. EIG also offers environment and energy audits, CO2 optimization strategies, soil remediation and sustainable construction consultancy, always under the C2C vision and agenda.

Investment

Start up capital. Initial capital of 9.000€ from founding partners of the business, and a loan of 200.000€. Founding partners chose to invest their own money in the business rather than external investment to maintain control of the company and its activities.

Sources of funding. 100% of clients are from the private sector, with 70% generated through sustainable construction services and Cradle to Cradle certification and 30% from Cradle to Cradle consultancy, the latter being the area for expected growth in the company with the intention of reverting this ratio.

Stakeholders

(Key groups at the start of the business)

William McDonough and Michael Braungart, authors of the cradle to cradle concept, who inspired the founders to set up the business and the Grupo Ferrer as the company's first big client were the two most influential players at the start of the business. Hostal Empuries was also a catalyzing project for EIG.

Employment generation

5 full time staff, 3 of whom are partners of the business and 2-3 external collaborators. The company usually has 1 or 2 students doing work experience. EIG has a multidisciplinary team, including a biologist, engineers (chemical and IT), experts in industrial ecology (one PhD employee), marketing and environmental science.

Timeline

2005	Founded the business
2006	Began work with first major clients, Grupo Ferrer to help design a sustainable building in central Barcelona, and the Hostal Empuries, a sustainable renovation and expansion of a rural hotel, based on C2C principles.
2007 – 2008	Negotiations with MBDC to provide C2C certification in Spain
2008	License awarded to provide certification
2008 – 2011	Reorientation of the business to provide C2C consultancy, beyond the construction sector.
2011	First C2C certified products and LEED projects attained.

Feasibility Study

No formal analysis was carried out; the company was set up based on clear principles, a strong vision and intuition based on the years of experience of the founders working in international business, as chemical salesmen, engineers and entrepreneurs. A consideration of the existing sustainable construction certifications available was made and the US based LEED system identified as a key area of opportunity for Spain.

Geo-social-economic setting

At the start of the company the concepts of sustainable construction certification and C2C in Spain were completely unknown and there was no demand for services related to these areas.

Key features

The company bases its operations on the guiding principles of C2C; waste = food; use current solar income and celebrate diversity, overall to ensure human activity makes a positive footprint. EIG advocates design with abundance whilst renewing renewable resources and preserving non-renewable resources.

Overall rationale and motivation

Bring the sustainable solutions for construction and design being applied in other parts of the world to the Spanish market, and the other way around. The desire to apply environmental and economic solutions to solve the world's social problems, the aim to change people's attitudes to production and consumption. The key environmental driver is to catalyze the shift from cradle to grave thinking to cradle to cradle thinking where waste is a nutrient for all systems and eliminate toxic substances from production. EIG motivates environmental change in companies by highlighting the economic benefits of doing so.

Strengths

The clarity of the C2C concept and the competence to apply practical tools for the transition to a more sustainable future, innovating in the design of products for service (rather than simply shifting to a service based economy). The multidisciplinary skill set of the team. Vision and Intention.

Challenges and constraints

Helping people understand the real value of natural resources and environmental services, and that a C2C attitude can generate true positive economic value and the fact that there are no competitors in the field in Spain.

Direct activities and impact

Social:

Bringing C2C and LEED certification to the Iberian Peninsula.

Environmental:

The redesign of waste, energy consumption and site remediation of Hostal Empuries, and all environmental achievements of LEED and C2C certified projects and products respectively.

Economic:

The company has a turnover of 350.000€ p.a.

Use of innovative technologies

C2C thinking and Biophilic design require a complete change of mindset and given this permeates all of EIG's work innovation is at the heart of the business, examples promoted are "positive-Biochar", charcoal used as a fuel and soil nutrient, "Stone Paper" made from calcium carbonate and other recyclable nutrients, C2C solar tubes, tiles, carpets, furniture, table tops, packaging, paper, detergents, textiles, green roofs and walls, auxiliaries, etc.

Evidence of a holistic approach/world view

The concepts used takes into consideration that the planet will need to feed 9 billion people in the near future, the challenges are social and the responses environmental and resource management.

Policies, incentives and regulations needed

Anything that encourages clean industry and the supply of clean air, water and soil such as the Clean Air Act in California. Public sector should mark clear objectives and provide incentives for the private sector with favourable fiscal measures as well as social policies regarding safe, healthy work places. Work together on the PLAN A.

Lessons and recommendations

Be ambitious and have a clear vision, don't deviate from this mission and maintain focus. Develop innovative solutions, be original and open minded. Just by changing from selling a product to leasing a product can be a – major - innovation in the market place and the Society.

References

www.ecointelligentgrowth.net

TUNISIA

Country	Tunisia
City	Béja
Project name	BIOME SOLAR INDUSTRY (BSI)
Name of Entrepreneur	Ahmed Ernez

Description

Production of Solar Water Heaters.

Investment

Start up capital: 400 000 DT

Rate of return on investment: 70 %

Sources of funding: Private funding, bank loan and investment from SICAR (Société d'Investissement à Capital Risque).

Stakeholders

Shareholders : Individuals (most of them energy specialists).

Customers: individual users of SWH (households) and Tertiary sector (hotels, hospitals, stadium...).

Providers: Établissement Krichène Tunisia, SOPAL Tunisia.

Strategic partners: ANME (National Agency for Energy Conservation) and STEG (Electricity and Gas Company of Tunisia) and CNSEnR (Professional Association of Renewable Energy), STB (Société Tunisienne de Banque) and BFPME (Banque de Financement des PME).

European partnership: KBB Germany, CEDRIS France.

Timeline

Date of Start up: 2007

Up to 2011, BSI took 17% shares of the local market and export to Morocco, Guadeloupe and Martinique

Feasibility Study

The feasibility study demonstrated that the market of SWH in Tunisia is an emerging one due to the PROSOL mechanism (subsidies and loan from conventional commercial banks to the end users). Potentialities of solar radiation in Tunisia and the increase of electricity and gas prices since the increase of energy prices (petrol) on international market, should lead Tunisian households to be equipped with SWH.

Geo-social-economic setting:

BSI produces SWH in Tunisia, which is the main market of its products. BSI is exporting to Morocco, Martinique and Guadeloupe. The good quality of BSI products (according to Solar Keymark standard) allows the company to access to international markets.

Key words/Vision & Mission of the company

BSI intends to become the first providers of SWH in Tunisia and to widen its market at international level.

Strengths

BSI has very experimented technical staff and a wide network of installers that operate in almost all regions of Tunisia (130 installers in 2011). BSI also launched many subsidiaries in several regions of the country. The high quality of BSI SWH is one of the strengths of the company.

Challenges and constraints

Currently, BSI is evaluating to diversify its products and this is the most difficult challenge. BSI intends to produce additional SWH of new capacities (150L, 250L et more than 300L). Moreover, BSI plans to introduce new technologies of tanks production, by changing the current tanks made of concrete to enamelled tanks.

Direct activities and impact

Social:

45 direct employment and 130 indirect employments were created by BSI in less than 5 years from start up.

Environmental:

36 000 m² of solar collectors installed contributing to reduce the CO₂ emission (6840 TeqCO₂).

Economic:

So far, 12 000 SWH installed in Tunisia contributing to reduce the energy bill of households and public and private organizations.

Use of innovative technologies

The introduction of Solar Keymark standard in BSI solar water heaters is considered as an innovation in the Tunisian market of SWH as BSI is the first company who adopted their standard. A change in production technology is planned for the production of enameled tanks.

Evidence of a holistic approach/world view

BSI vision is to contribute to a sustainable energy supply in Tunisia and other countries and to the protection of the environment throughout the reduction of CO₂ emissions.

Scale of benefits

BSI vision is to contribute to a sustainable energy supply in Tunisia and other countries and to the protection of the environment throughout the reduction of CO₂ emissions.

Policies, incentives and regulations needed

The SWH market in Tunisia is still emerging due to the PROSOL mechanism (subsidies and loan to the end users). Thus, maintaining the PROSOL is one of

the crucial conditions to maintain a viable market. On the other hand, a new promotional mechanism related to the use of solar thermal technology in the industrial sector is to be launched, allowing to impulse new niches. New regulation is also needed to make the usage of SWH compulsory in new buildings. Such regulation will allow reducing energy imports at the macro-economic level, decreasing the energy bill at the household level and to further boost the SWH market in the country.

Lessons and recommendations

High technical and economic skills of the founder and the shareholders as well as the high competency technical team are necessary to achieve success in the SWH market. Human resource management is also an important issue to guarantee the continuity of the business.

References

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<http://www.made-in-tunisia.net/vitrine/index.php?tc1=IKuSlæX>

Criteria of success

Turnover: In currency or %	Start up 2 000 000 DT	Midway 6 000 000 DT	2010 7 000 000 DT
Employment generation:	Direct	Indirect	
Start up :	25	70 installers	
Midway :	35	100 installers	
2010 :	45	130 installers	
Overall motivation of the owner: The founder of BSI has been a senior engineer of the ANME and the technical director of another SWH company in Tunisia. By founding BSI, he wanted to valorize his long experience in the field of SWH. The founder believes that Tunisia could be a biggest market of SWH and could also be competitive on the regional market (in the Maghreb region and the Middle East as well as in African countries).			
Impact on the Environment: 12 000 SWH produced and installed, standing for 36 000 m ² of solar collectors giving an emission reduction of approximately 6840 TeqCO ₂			
Innovation generation: Commitment to product and service quality (Solar Keymark standard adopted, ISO 9001 adopted, Qualisol standard for installers network adopted, Introduction of SWH into 10 hotels considered as pilot projects in Tunisia).			

TUNISIA

Country	Tunisia
City	Tunis
Project name	COLLECTUN D3E RECYCLAGE
Name of Entrepreneur	Ines Temimi & Alain Covi

Description

Collect, transport, dismantle and recycle W.3.E. (Waste Electric and Electronic Equipment). COLLECTUN D3E RECYCLING was established in 2009 as an exporter of Tunisia Metal Scrap products. The company is located in Tunisia, recycles wastes of electric and electronic equipment and has an agreement for selling and export used electronic wastes (rich and poor electronic card, hard drive, power supply, cables, etc...) The products are well sold worldwide markets, including Western Europe. The company is known for paying particular attention to quality, customer, prompt delivery and service.

Investment

Start up capital: 16 000 dinars

Rate of return on investment:

Sources of funding: Private Funds

Stakeholders

Shareholders: TEMIMI Ines et COVI Alain

Customers: Recycling Companies Nokia – Shell – EPPM – STB (Société des Banques Tunisiennes) – TUNISIANA

Providers: Government, Companies with used equipment to recycle, producers of electronic wastes.

Strategic partners: none

For local market: Plastic and iron recyclers

For export: European Companies

European partnership: Companies specialized in recycling W3E

International partnership: Signatory countries of the Basel Convention

Timeline

Initial September 2009

2010 Significant increasing of the turnover (90,000TD)

Up to 2011 Estimation of turnover equal to 2010 achievements

Feasibility Study

The owner did not carry out an thorough feasibility study but studied on her own the market of electronic wastes recycling in the EU and US market and observed the absence of similar companies in Tunisia.

Although a dedicated fond (FODEP) is established, the heavy procedures discouraged the access to the public funds and she started with her own capital. She keeps on investing in her company her own capital.

Geo-social-economic setting:

Collectun operates in Grand Tunis. 80% of the turnover is on export activities.

Key words/Vision & Mission of the company

Collect more electronic wastes, Contribute to better regulations for the destruction of hard electronic wastes. Improve the winning matching of making business while protecting the environment.

Strengths

One of the first D3E recycling companies in Tunisia with local and European partners specialised in recycling.

Challenges and constraints

One of the biggest challenges faced by the company is the sensitization of businesses in recycling electronic wastes and to collect used phones to include in the recycling process.

Direct activities and impact

Social:

Direct and indirect employment creation (collectors, recyclers, transportation...)

Environmental:

Recycling of polluting materials (plastics, iron, etc..) and re-use of materials contributes to better and more healthy environment and to the protection of natural resources in Tunisia

Economic:

Collectun provides services to industrial companies for collecting electric and electronic and indirectly contributes to raise awareness of the importance of recycling. It also contributes to generate work for smaller recyclers involved in the company business.

Use of innovative technologies

Collectun owners are planning to buy a special machine to destroy hard drive, used phones, electronic card, etc.. They are in search of European funds allocated for the recycling companies to buy new machines, establish a bigger factory and increase the company turnover and employment opportunities.

Evidence of a holistic approach/world view

The electronic wastes are considered as dangerous wastes. Recycling them is a must!

Scale of benefits

Collectun has achieved a tremendous growth in term of financial turn-over in few years in a difficult and not always well regulated market. The company objective is to become a leading company in the field of D3E recycling in Tunisia.

Policies, incentives and regulations needed

Respect of the Basel Convention for the transportation and packing of wastes.

Lessons and recommendations

Keep systematically informed of the recycling solutions of electronic wastes (the less expensive and those that have a bigger impact on the environment).

References

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<http://www.collectun.com.tn/>

Other references:

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Criteria of success

Turnover:	Start up	2010	Estimation 2011
In figures or %	3,000td	90,000td	90,000td
Employment generation:	Direct	Indirect	
Start up :	2		
2010:	7		
2011:	7		
Overall motivation of the owner:			
To operate in the field of recycling adds value to the daily business activity of the owner who can contribute to reduce the impact of dangerous wastes on our living environment.			
Impact on the Environment: Still not evaluated in figures			
Innovation generation: Use of always more effective and efficient equipments			

TUNISIA

Country	Tunisia
City	Bouargoub
Project name	ECO-OLEO
Name of Entrepreneur	Melik GUELLATY

Description

Collection and recycling of used cooking oil from food industry.

Investment

Start up capital: 141 000 Dinars

Rate of return on investment: 50%

Sources of funding: 30% Private Funds; 70% loans

Stakeholders

Shareholders:

Customers: 100% export (Italy, Malta, Spain, other European countries...)

Providers: Hotel chains

Strategic partners: no

European partnership (specify which kind?): no

International partnership (other than European): no

Timeline

Date of Start up: 03/2006

Progresses up to 2011 : 100% increase of the turnover since the start up.

Feasibility Study

The owner did not undertake a feasibility study but built his project based on the experience of similar business observed and studied in France and applied it to the Tunisian environment and priorities.

Geo-social-economic setting:

where does the company operate: All over Tunisia and it is now opening an equivalent company in Morocco.

Key words/Vision & Mission of the company

Collection and recycling of cooking oil that is used throughout the country by Hotel chains and restaurants to bring them in line with respect to the law 96-41 and ISO 14001 environmental certification standards.

Strengths

Sharp organization of the recycling collection and recycling awareness rising. Eco Oleo allows their clients (hotels and restaurants) to be in compliance vis-à-vis environmental international certification standards.

Challenges and constraints

Despite the clear regulatory framework, the owner experienced several problems at the beginning of his business venture mainly due to difficulties with the Former Ministry of Environment and the organization of local collectors.

Direct activities and impact

Social:

The Company is engaged in developing better living condition at the community level and of its employee's families.

Environmental:

Reduction of 1.200 tonnes per year of used cooking oil into the drainage systems and in the units of waste water treatment.

Economic:

Community development and creation of new jobs.

Use of innovative technologies

None

Evidence of a holistic approach/world view

To achieve the goal of producing 100% biodiesel from used cooking oil, and thus contribute to create energy independence.

Scale of benefits

Despite the many difficulties encountered at the start up level Eco- Oleo succeeded in overcoming the constraints caused by an important informal market in the recycling process. The company collects used oils independently and directly from their clients (Hotel chains and restaurants) with which they stipulated annual collecting agreements.

Policies, incentives and regulations needed

A better regulation could prevent the informal work to endanger the recycling sector. Several authorized small companies have already closed down due to the incidence of the informal market of collectors.

Lessons and recommendations

Strong motivation, competence and innovative approaches are key factors to overcome the difficulties and to succeed in emerging sectors.

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Criteria of success

Turnover:	Start up	2010	Estimation 2011
In figures or %	500 000 Dt	700,000Dt	1.000.000Dt
Employment generation:	Direct	Indirect	
Start up :	8	3	
2010:	15	7	
2011:	28	7	
Overall motivation of the owner:			
The Green Business has a brilliant future. It combines the creation of wealth while preserving the environment			
Impact on the Environment: Reduction of 1.200 tonnes per year of used cooking oil into the drainage systems and in the units of waste water treatment. These 1.200 tons of oil can produce 1200 tons of BIOFUEL (For 1 collected litre a car can run 10 km with 70% reduction of greenhouse gases)			
Innovation generation: The innovation lies in the process of biodiesel production and its use.			

TUNISIA

Country	Tunisia
City	Tunis
Project name	ENTREPRISE ABDA YACOUBI
Name of Entrepreneur	Abda Yacoubi

Description

Logging and timber wood exploitation through tenders launched by General Directorate of Forests (for state owned forests). Selection, treatment and sawing of timber wood. Production of pallets for industry and wood coal for local market.

Investment

Start up capital: 350 DT

Rate of return on investment: More than 100 %

Sources of funding: private funding

Stakeholders

Shareholders: As a family business, the 7 shareholders (apart of the owner), are the children of the founder.

Customers: STIBOIS (Tunisian company dealing with timber wood trade), carpenters, craftsmen working in fishing boats workshops.

Providers: General Directorate of Forests, Office des terres domaniales, cooperatives.

Strategic partners: None

European partnership (specify which kind?): None

International partnership (other than European): None

Timeline

Start up: 1969

1984: Extension of the vehicles fleet (cars, trucks, engines)

1998: Launch of the pallets plant.

Feasibility Study

Many members of the family owner have worked in the field of timber wood and production of wood coal. The founder started working with his brother in producing and selling of wood coal and progressively, begun to invest in timber wood exploitation through participation in tenders. The founder described himself as a self-made man who built his business throughout experiences and also mistakes. He has never realized a real feasibility study before launching his business.

Geo-social-economic setting

Where does the company operate: the company works in many regions of Tunisia, basically where the forests are (Kasserine, Ain Draham, Kelibia, Dar chichou...). The main type of wood exploited is Eucalyptus and pine trees.

Key words/Vision & Mission of the company

Forest, timber wood exploitation, wood coal, processing of pallets.

The founder defines the mission of his business as a contributor to the maintenance and conservation of forests throughout a rational exploitation respecting technical rules and conditions.

Strengths

Skills of the owner in assessing the profitability of timber wood potentialities of forests before participating to invitations to tender or bids. Also, the financial capacity is one of the strength of the company, making it able to participate to important bids related to timber wood exploitation (sometimes hundreds hectares of forests). Finally, the founder owns an important fleet of vehicles, trucks, engines and sewing machines, allowing his company to start logging and exploitation of timber wood rapidly and efficiently, which is a huge advantage compared to competitors' capacities.

Challenges and constraints

Many competitors who participate to bids contribute ineffectively to the increase of the price offers without making a right assessment of the profitability of one forest. Thus, sometimes, the company is obliged to win bids without any profit, but for the only reason to satisfy the customers demand for pallets.

In addition, the forest roads are presently deteriorated. This bad infrastructure affects the company productivity and profitability because of difficulties met to access to the forest areas. In addition, the forest guards are very strict about logging techniques and rules, things which slow down the progress of any operation.

Direct activities and impact

Social:

Employment generation locally and regionally.

Environmental:

Forest exploitation according to sustainable rules and techniques.

Economic:

The company contributes to improve the income of local people living in forest areas who come usually from low income households.

Use of innovative technologies

No particular innovation used.

Evidence of a holistic approach/world view

Apart its contribution to the sustainable natural resource management, mainly in the forest area, the company has not actually a concrete vision to the future.

Scale of benefits

The company growth is very satisfying during the 80's and 90's, however the turnover is currently stabilized and there is the need to upgrade to further new productive technologies.

Policies, incentives and regulations needed

There is a need to alleviate the responsibility of the companies working in forest and wood exploitation; otherwise, the business will not be viable. For example, any company exploiting timber wood by logging is responsible for any degradation in an area of about 100 meters around the site (in case of fire for example). This rule obliged such companies to hire additional employees as guards and make any operation less profitable.

Lessons and recommendations

Logging and timber wood activity is becoming less profitable compared to 10 or 20 years ago. Many regulations adopted make the activity of forest exploitation less profitable. For instance, the obligation to clean up the forest from residual wood or 'dead wood' and its transportation out of the forest because of the fire risk.

References

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Criteria of success

Turnover:	Start up	2010	Estimation 2011
In figures or %	100 Dt	50.000Dt	50.000Dt
Employment generation:	Direct	Indirect	
Start up :	4	-	
2010:	30	-	
2011:	30	-	
Occasional jobs created in 2010 : 1050 working days			
Overall motivation of the owner:			
The founder is motivated to continue working in the field of forest exploitation because of his skills and experience. He aims at perpetuating his family profession.			
Impact on the Environment: The company is contributing to the exploitation of forests in a sustainable way respecting rules and techniques fixed by the forest code and specification documents. The company applies all technical conditions to allow the regeneration of forests.			
Innovation generation: The low profitability does not allow the company to acquire new technology (equipments and machinery) which are very expensive and must be imported.			

TURKEY

Country	Turkey
City	Istanbul
Project name	VIP DRY CAR CLEANING INC. <i>Mobile waterless carwash service in Turkey</i>
Name of Entrepreneur	İbrahim Nacar

Description

A company that offers a mobile waterless car cleaning service using organic, non toxic products. The service is delivered on motorbikes so clients can have the carwash in the place and time of their convenience. This concept has been brought from the US to Turkey.

Investment

Start up capital: 110,000 €

Rate of return on investment: 4 months

Sources of funding: Financed by the own resources of the entrepreneur İbrahim Nacar.

Employment generation

67 workers are employed for this business in Turkey (including dealers).

Timeline

2006 Inception

2007 Implementation

Feasibility Study

Currently there are 13 distributors of the Company. As an average, each distributor provides cleaning services to 250-300 cars/month. This means 3,250-3,900 cars are cleaned monthly. Since the price of a cleaning operation is between 7 and 12€, depending on the type of the operation total monthly turnover of 30,000-37,000 € is generated. When compared to traditional car wash operations, this company saves water and time which decreases the manpower requirements and as a mobile service there are lower overheads than in a fixed service.

Geo-social-economic setting

The annual per capita water potential is at present 1700m³ but expected to be reduced to 1000m³ in the year 2020. Turkey is not a 'water-rich' country and water efficiency measures and implementations are receiving wide public support. High unemployment rate is a concern for Turkey with high regional unemployment differentials is another. The automobile sector plays a vital role in Turkey's economy and it has taken an important place in the export mix from the country. According to the figures released by Turkey's statistics authority (TurkStat) the total number of motor vehicles in Turkey reached 15.023 million as

of November 2010. Some of the provinces with the highest rates of car ownership are; Ankara, İstanbul, Eskişehir, Antalya and Zonguldak where the service of dry car cleaning is provided by the company.

Key features

Affordability and strong environmental criteria, backed up by certifications and standards of the highest level. Environmental Friendly Service, Organic Solutions, Resource Efficiency.

Overall rationale and motivation

Need for an attractive and interesting innovation in the automobile sector to attract people's interest to eco-friendly services. Drive to promote water saving and create a new business model with high income potential.

Strengths

Totally eco-friendly service, providing water saving, reductions in pollution, time saving for clients, employment generation.

Challenges and constraints

The lack of knowledge regarding environmental protection in Turkey, well known traditional water cleaning services.

Direct activities and impact

Social:

Customers save time.

Environmental:

Attracts interest in eco-friendly services, raising awareness of water saving.

Economic:

Running unemployed people for the assembly of service provides the opportunity to earn money. By this project nearly 70 people are employed in different regions of Turkey (Zonguldak, Eskişehir, Adana, Antalya, Ankara, İstanbul, Konya, Şanlıurfa).

Use of innovative technologies

Dry cleaning cars with organic solutions instead of water, as well as saving customers time from bringing their cars to a traditional cleaning point. As the objective of our innovation is at one side to attract the people's interest to eco-friendly services and spread the knowledge of environmental protection.

Evidence of a holistic approach/world view

Discovering great opportunities for sustainable solutions.

Scale of benefits

Benefits are at the national level, employing 70 people from 13 distributors.

Policies, incentives and regulations needed

Specific focus should be made on barriers to present finance instruments such as business angels, venture capital and private equity to be used in green entrepreneurship and specific solutions should be sought. Appropriate

mechanisms should be created for compensating the risk taken and income expected by the investors, for their green entrepreneurship investments.

Lessons and recommendations

Water is a very important natural resource for Turkey and the world and services run with water can be made more eco-friendly. Chase innovations in all over the world and good R&D work.

References

www.vipsusuzotoyikama.com

TURKEY

Country	Turkey
City	Hatay
Project name	KARAGÖNLERA. Ş <i>Biofuel and Olive Oil production from Olive Pulp</i>
Name of Entrepreneur	N/A

Description

A medium sized olive oil producer company with 4,500 tons of oil processing capacity producing biofuel and olive oil from production residues. Collected residues are extracted by hexane to produce olive oil and then spent olive cake is pressed into material similar to firewood, with a high commercial value.

Investment

Start up capital: 2,800,000 €

Rate of return on investment: 1.9 years

Sources of funding: Financed by Technology Development Foundation of Turkey, Development Bank of Turkey and Company's own resources.

Employment generation

1 environmental engineer, 1 technician and 14 non skilled workers (in total 16 employees).

Timeline

2009 Inception

2011 Implementation

Feasibility Study

In Hatay, where the project is implemented the amount of olive oil and olive production is highest among all cities in Mediterranean Region with 22,278 tons of olive production in total. In other words, the main input of the facility is secured for a long period of time. On the other hand, there is almost no risk for commercialization of the product since firewood is used almost everywhere in the region, including households and industrial enterprises.

The main operational cost of the facility is the raw material (olive pulp) which accounts for 930,000€ annually. Other operational costs are Personnel, Chemicals, Energy and Maintenance-repair. Total operational cost is estimated to be 1,290,000€. Since the estimated annual revenue is somewhat 2,800,000 € the return of investment will be in 1.9 years.

Geo-social-economic setting

Turkey is at the 4th rank for olive tree population, 6th rank for the olive tree area among the olive producing countries. Turkey contributes to world olive production at a rate of 8% and is at the 2nd rank after Spain. Furthermore, Turkey is at 1st rank for olive consumption. According to the "Olive and Olive Oil

Harvest" results of 2010-2011 period, in Mediterranean Region, there are 46,727,191 olive trees and 44,414 tons of olive oil will be produced in total. Owing to the high production and consumption of olive oil in Turkey high amounts of olive pulp is generated, which have to be disposed of in a safe manner. Currently, in the rural parts of the country most of the produced olive pulp is either burned unsanitary or deposited on wild dumping areas.

Key features

Resource Efficiency, Waste reduction and valorisation, Value-added Product Formation, Industrial Symbiosis, Industry-Industry Cooperation, Regional competitiveness, Social responsibility.

Overall rationale and motivation

To act as an example in the sector, providing a better quality fuel for the people in the region, who tend to use olive pulp directly, which is an unhealthy practice. To overcome an important environmental problem by recovery of wastes. Furthermore, to contribute to the prevention of air pollution by producing fuel from wastes. In addition to these, also to contribute to the saving of natural resources and forests by preventing wood consumption. To provide local production of fuel wood that is presently imported from Syria, and to act as an example of industrial symbiosis by the collection of olive pulp from other producers in the region.

Strengths

Being an important player in the olive oil market in the Hatay region, Producing live oil from olive pulp which is a value-added product, Compatible with the environmental legislation, Improvement in the product quality, Reduction of air emissions.

Challenges and constraints

Difficulties in creating sufficient investment capital and there is a risk of not collecting enough olive pulp.

Direct activities and impact

Social:

Living conditions, health, and awareness level will be increased from use of a healthier fuel.

Environmental:

30,000 tonnes/year olive pulps will be utilized reducing waste and conserving natural resources (firewood) as well as protecting forestland.

Economic:

15,000 tonnes/year fuels will be produced contributing to national economy, GDP, country competitiveness.

Use of innovative technologies

Converting a waste product into fuel and new processes of extraction (including vapour, drying and oil extraction), refining processes and production of olive pulp.

Evidence of a holistic approach/world view

Contribution to regional development by the recovery of in plant wastes as well as the wastes of same character originating from other plants in the region, with an approach of industrial symbiosis.

Scale of benefits

Local and regional, due to recycling of 30,000 tonnes of olive pulp per year and 15,000 tonnes of fuel produced.

Policies, incentives and regulations needed

Consumer demand is the primary driver of the market. Therefore, it is essential to create public awareness on environmental problems and sustainable consumption approach, for creating an environmentally friendly product and service market. Measures should be taken for "supply chain approach" and "supply chain management" to be adopted by private sector, so that an interactive environment is created for green entrepreneurship and different entrepreneurial opportunities are developed during materials management, collaborative procurement, collaborative manufacturing, etc.

Lessons and recommendations

Wastes are actually raw materials for producing other added value products. Analyzing the status of the regions in terms of market needs is important.

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