

# FOCISS: A FRAMEWORK FOR DEVELOPING A SUSTAINABLE BUSINESS STRATEGY

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## Abstract

Most companies find it difficult to integrate sustainability in their business strategy in such way that it will 'pay off'. Sustainability with its opportunities and challenges are not understood in its real meaning for their business. A major factor is that a distinction in essential and non-essential (and even irrelevant) issues for the core business is not made. Sustainability often seems tedious and somewhat unprofitable and therefore is taken up reluctantly just because it 'should' and is 'good' in an rather abstract manner. So sustainable actions selected are often 'generic', based on standard approaches and broad 'sustainability philosophies', instead of on an analysis of the companies specific own situation, ambition and strategy.

We have developed an approach that helps to determine real core business related sustainability issues for an individual company. It provides a clearer focus and a better understanding of the importance of sustainability. Through that it also generates stronger internal commitment and more effective implementation. This so-called Fociss approach (focussing innovation for a sustainable strategy) starts with the actual role a company and its products have in society and economy and the changes that will occur. It is a stepwise narrowing down on theme's, issues, sensible innovations and priorities which must then be the core of a company's future aimed strategy for taking part in the sustainable transitions that will occur.

The approach gives a very practical and strategic insight into sustainable business management issues. It forms therefore a perfect framework to train students in effective sustainable business management and innovation.

## Keywords

*CSR, innovation, strategy, management, sustainability, core business, education*

## 1. Introduction

Sustainable development has moved from being a subject for some specialists into a topic that is regarded as crucial for society and the economy, at least in public attention and in official policy development. As yet, it is not really integrated in strategies and the daily operations of most companies and many other organizations.

In 2009 and 2010 the Dutch economic agency for innovation Syntens has had a program to integrate sustainability in the strategies of companies, in particular SME's<sup>1</sup>, which have proven to be frontrunners in innovation, the 'DOE-MEE' program<sup>2</sup>. About 200 companies known as innovative in their sector, joined the program. It proved successful. 75% indicated that it influenced their company strategy towards sustainability and 30% indicated that it strongly influenced their sense of urgency with respect to specific sustainability issues (Bertens 2010). As part of the program we organized workshops on innovation and sustainable strategy and had interviews with companies which advertised themselves as being sustainable. That focused on their decision processes concerning sustainability and innovation, and how it becomes implemented into long term strategies. Our participation forms part of our research which aims at determining how strategy, innovation and sustainability can be combined in the most effective and profitable manner for a company.

The results of the program supported earlier observations in our research that two main aspects are critical for sustainable business to be implemented effectively and profitably:

- sense of urgency, meaning understanding what sustainability really means for a specific business and that it is not just 'something of the future' but asks for action now;
- effective integration in a (innovation) strategy, implying determining the real essential issues and plan a course of action with priorities and timetable.

It further strengthened earlier observations that becoming a sustainable business still is seen as very difficult and complicated, notwithstanding the efforts of groups and agencies to stimulate it. Companies generally agree that sustainability is 'good' and essential but tend to postpone investigating its consequences for their business. They keep on seeing it as an abstract issue, often expensive and only good for marketing in some cases.

This observation seems contrary to the fact that so many companies publicize actions aimed at developing and introducing sustainability and that surveys, in the Netherlands,

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<sup>1</sup> Small and Medium Enterprises: < 250 employees, not a subsidiary of a larger conglomerate.

<sup>2</sup> DOE-MEE (Dutch acronym for 'join us') stands for Sustainable Development and Economy - Environment, Energy and Ecology. It was jointly done with and sponsored by the Dutch Department for the Environment (VROM).

indicate that 'most' companies do something with sustainability or at least plan to do that in the near future. Some remarks can be made however that lead to a less positive view.

1. From surveys done for SME's it becomes clear that sustainability is mostly seen as a. environmental protection as required by law and/or b. 'something that the market asks or should ask'. So it is a limited view and a rather reactive attitude (Bertens et al 2008, 2009).

2. The image the general public has about sustainable business is mostly determined by larger companies. They are commonly subject of critical review by 'the public', governments and NGO's. They feel the need and at the same time have the resources, money and knowledge, to show that they are responsible members of society. For SME's the situation is totally different. Certainly many SME's are actively busy with sustainability as is demonstrated in the DOE\_MEE project. However many, actually most in our opinion, are not at least not in an really effective manner. One could suggest that in due course 'the gospel will spread' and of necessity all companies will adopt effective sustainable business practices or run the risk to 'fade out of business' because there is no place for them in a sustainable economy. That however might take much time and cause (nearly) irreversible damage to our economic and social basis as will occur when insufficient sustainable economic practice will prevail too long.

Looking into the possible factors that can stimulate or hinder the effective implementation of sustainability in companies, a large variety of factors is named, as financial, technical, organizational etc.. Our observation is that missing sense of urgency in the responsible management seems the actual cause in most cases. That is to some extent also corroborated by a recent study into the most determining factor for becoming 'a sustainable business in SME's', which proves to be: 'managers with a strong personality and drive' (Pfister 2008). It is the human factor which can be stimulated, we expect, by creating sense of urgency and perception of what sustainability means. In our opinion therefore some essential elements are missing in the present models and approaches to stimulate and define sustainable strategies and innovations.

To address that we have developed over the years a practical approach, in which the own company interests, options and ambitions are starting point for an assessment of the requirements society and economy will pose, now and in the future. It shows the business related consequences that developments will have. Choices are made by clearly setting priorities not just on needs and risks but on profits by new and improved business options and by matching them with the own company (and management) visions and ambitions.

That will create a much better sense of urgency and lead to concrete choices and aims to make sustainability less abstract and something a manager feel familiar with.

In many other approaches sustainable solutions form the starting point of creating 'sustainable business' instead of the own needs and ambitions. That can result in solutions that do not fit the company. They might not really valuable for a company, are insufficiently recognized and lack motivating power. That would strengthen the view that 'sustainability costs (too) much' because there are no profits or they are not recognized.

The approach is called 'Fociss': Focussing Innovation for a Sustainable Strategy, because it became clear that in particular decision making for innovation involves all aspects that concern sustainability too and is therefore pivotal for a real sustainable business strategy. This paper describes the background of the approach, its aim and purpose, main elements and essential aspects. It shows also some of our observations when using it in projects with companies. The approach, or better its 'philosophy' has also become an essential part for introducing 'sustainable business management and operations' in the various management courses on Avans university. A short description of the 'protocol' for using the Fociss approach in projects is added as an annex at the end of this paper.

## **2. What a good approach needs to deliver**

### **2.1 Right action for the right value**

An action or innovation can have various results for a company. It can improve the business and the company, it has no real relevant effect good or bad, or it might prove detrimental or even fatal to the company on the short or long term. The same counts for sustainable actions or innovations. That seems obvious. Nevertheless regularly 'sustainable actions and innovations' are not assessed for their result in that respect. Sustainability is often seen as an intrinsic good including 'profitable'. Because its perceived value/profit for society or economy as a whole (renewable, environmental friendly, ethical, etc.) is not assessed with the value or profit for the company in mind too nor is that seen as essential. However, without actual real value for the company, actions will at least not be implemented effectively which will reduce or even negate its possible positive effect. It might even lead to bankrupting the company which will end any positive effect anyway. So the company must clearly profit from it too. Assessing the real value of a sustainable action or innovation for a company is however not so simple.

It should be clear that real effective innovations are essentially those which concern the core business of a company. That must be strengthened and 'adapted to future requirements'. The core business determines the role a company plays with its products and services in society and economy. A company and its products will stay viable and profitable when they contribute to a sustainable society and economy. To play a role in that future economy and society, and staying in business, products and services must be adapted. That asks for understanding the role a business has and the changes sustainability might bring in that.

The other two categories of results for 'assumed sustainable' actions and innovations: less relevant and even detrimental, occur when sustainability in relation to the real interests and role of a company is misunderstood. It is often based on the idea that specific actions and technologies are intrinsically sustainable and profitable under all circumstances. However they will cause scarce company resources (certainly for SME's), time, creativity and money to be spend on actions and innovations that quite likely will not profit the company, nor its employees and clients and in the end not the economy and society as a whole. That can be even fatal for a company. Resources spend on not so relevant issues are not available anymore for the real core business related issues which would determine the companies future. It might also suggest that enough attention is paid to sustainability so 'the future of the company is safeguarded' which it is not: solar cells on the roof instead of new more efficient processes or novel products. Attention for not so relevant issues will likely stop during an adverse economic period. So in the end time, money and resources have been used to no avail. It will very difficult to keep all actors involved, internal and external when there is no shared feeling that those actions and innovations are indeed essential. Such non relevant actions might be based on a hype that indeed concerns the core business but not the right one for future viability. Take for instance the development of the first generation biofuels where much investments are done but of which the 'real sustainability' is questionable.

Of course when time and money are sufficiently available, there is no real problem. But for how many companies is that the case? Bankruptcy is a loss in itself for all involved but sometimes the damage is broader, even to society and the economy as a whole. That requires scarce resources again to redress and repair. An example: Ford company neglected the necessary change to 'sustainable cars and transport' although it invested in other sustainability as C2C for its buildings. It is too large a company to fail so it had to be bailed out by the taxpayers.

## **2.2 Sustainability requirements before innovation selection**

Right action requires also that in the decision making process sustainability requirements come before innovation selection. Innovation that does not take the (near) future constraints set by sustainable development into account will not pay off in the end. Nevertheless sustainability is often still brought in as the second step, intending to polish up the already selected innovation and make it looking sustainable. But then a possible wrong decision is polished up. As example: some companies invest heavily in renewable energy and new innovative low energy processes because that is seen as the present most urgent priority to become a sustainable business. However when the company does not heed the challenges they will really face, such as uncertainty of resources (copper, wood), socio-economic problems with resources (biofuels, child labour) or unpleasant effects of their products (obesity, problematic wastes) they might have set the wrong priorities to stay viable on the long run.

## **2.3 Clarity of purpose instead of confusion**

Companies which seriously are willing to take up sustainability are often bewildered by the multitude of definitions and ideas, possible courses of actions and the number of issues that can and apparently have to be addressed. Misunderstanding the relation of sustainability with the own core business is aggravated by the confusion caused by the multitude of aspects and options that pop up when sustainability is discussed and by the many seemingly competing different approaches, philosophies, technologies etc. that are propagated as 'the answer for sustainability'.

A main cause of misunderstanding is working with 'derivatives of the definition' and not going back to the basic definition of the term as coined by the Brundtland committee (WCED 1987). There it is 'defined' as safeguarding future options for a healthy society and economy. Then and later is clearly shown that for a stable society and economy all aspects of economy, human behaviour, social and cultural, and of the physical world, healthy living conditions and resources, are involved. Making that 'idea' operational for a specific situation asks for addressing a selection of some aspects which are most relevant. Often that is then seen as 'a new definition' which however covers only part of it and does not work when it is used in

another situation. For instance often, certainly in SME's, it is translated, reduced, into environmental protection and energy saving only<sup>3</sup>.

Another misunderstanding is that specific actions and technologies are intrinsically 'sustainable' because: they resemble nature, they are renewable / biodegradable / organic, it socially nice or ethical etc. The fallacy of that is that it might be so that the complexity of all factors and actions involved hides severe 'non sustainable' aspects which although unseen can be larger than the clearly visible and advertised 'sustainable aspect'. A clear example is first generation biofuels. Furthermore rebound effects can occur as result of the complexity of social and economic systems and in particular of human behaviour. (example: it is environmentally friendly, so I can use more).

Also the various philosophies, design rules, business models etc. that are developed to give businesses a helping hand in drafting its sustainable / social responsible business strategy can in some cases be too generic. In some situations or when used without discrimination they might be not sustainable at all. Certainly these philosophies, models, checklists, 'how to' books are very inspirational and form an enormous reservoir for creative approaches. They have to be used with caution, selecting those options that really fit the specific situation of a business and which have been scrutinized on possible side effects, rebound or non-sustainable factors.

The last cause of confusion is the large number of aspects and issues that have to be considered. The metaphor 'People, Planet, Profit'<sup>4</sup> spells that out already. Sustainability involves many aspects and issues which have to be considered in total and in relation to each other, to come to real sustainable solutions. That certainly makes sustainability often appear to be too complex, with too many issues, most of them with no clear relation to the actual business and daily operations as people see them. There are also many lists stating

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<sup>3</sup> A major consequence of that assumption is that sustainability in such case is left to operational level, the HSE coordinator and technical staff. However it concerns the developments within society and economy and should therefore be the task of product development and strategic management. Such misunderstanding can clearly prove fatal to a company.

<sup>4</sup> 'Profit' should read 'Value' because that is what it concerns: the value an activity can have for the company, individual persons involved, stakeholders and the society as a whole. Profit is too much associated with financial gains. The instead used word 'Prosperity' neither covers it completely. Because of that choice of words, the 'Profit' in the 3P metaphor is indeed often interpreted directly and exclusively alone as 'financial gains' for a company. And of course that leaves a whole set of essential aspects out, as for instance financial institutions have learned recently but are forgetting again.

what a sustainable and social responsible business should address. Such lists are very useful when evaluating the sustainability of a company as a whole, or for auditing purposes when an official report on sustainable performance is required. Certainly for SME's they are too impractical and actually scare them away from even starting to consider the need and possibilities of sustainable business strategy. Therefore companies, SME's but also larger ones, must concentrate themselves on a limited number of issues. They need focus and priorities.

## **2.4 In the end, a practical framework for an effective sustainable organisation**

Recent management research literature concerning the relation of sustainability, innovation and profitability shows a growing consensus that incorporating sustainability and corporate social responsibility in the company strategy will strengthen the company's basis and profitability, certainly on the longer term (Bhattacharyya 2007). Nevertheless Bhattacharyya concludes: "The notion that CSR should benefit the firm as well is no news now. But a framework which guides managers so that they can decide which CSR initiatives make strategic sense to the firm remains elusive." He concludes that such an framework must act as an effective 'CSR-strategy-filter' and minimally must be able to:

- determine actions that contribute to value chain activities
- select those actions that effectively improve context of competitiveness

Indeed, evaluation of often informal surveys done in the various industry sectors show that most companies accept that sustainable development is essential, for society and economy and therefore important for them as well. However most do not have a clear view on how that will affect them. They consider it more a risk rather than an opportunity and insufficiently acknowledge it as the major driver for their future innovation strategy. The proposed 'CSR-strategy-filter' must also be able to overcome this observed discrepancy between 'acknowledging' and actual behaviour. Our own studies indicate that causes for this are:

- Companies have no clear view on the 'socio-economic systems' they are part of nor of the developments that are reshaping those systems, the transitions that are about to come. They tend to concentrate themselves on their own production and product. Most see the developments within the production chain and systems they are part of, outside their influence. They are not aware that those developments will sooner or later have much influence on their product and production too.



- There is often no clear strategic framework which makes it possible to select 'radically' novel innovations, certainly at SME's. For sustainability that might often be necessary. As a result companies stick to their 'trusted' ways which 'have always been successful'.
- Companies have insufficient view on the future and select innovations that are based only on short term arguments even when these appear to be sustainable.

There exist also operational, organisational, knowledge and communication obstacles within a company. Insight in the importance of CSR and sustainability often stays confined to a small number of people whose efforts then are insufficient effective. The CSR / sustainability strategy is not integrated in the actual company strategy. Different groups and departments are responsible for innovation and for sustainability. Sustainability issues are commonly not discussed through the company as a whole. Sustainability is seen as only an operational issue. And so on.

As a result, sustainability is not really integrated, even as we observed in 'sustainable businesses'. It is often only 'skin deep' and not supported throughout the whole of the company. As such sustainable measures and 'innovative actions' are mostly aimed at risk and cost reduction. That is not wrong but at the end insufficient. Real sustainable business concerns creating new business opportunities and/or assuring the viability of the present ones to make profit also in the future, because of responding to the needs of society, in all aspects.

One approach can of course not be the answer to all those issues. We consider the identification of sustainability issues which are manageable and recognized as essential for the future of the core business, a crucial step in setting up such a framework within a company. The sense of urgency, and maybe the vision and ambitions that come with it, can motivate companies to pick up sustainability as a profitable challenge with the knowledge that it can, when well done, lead to real future profits for the company and society.

### **3. Essential elements**

#### **3.1 Focused innovation**

Most companies decide on new investments on the basis of information and signals from the present and on the actual situation they see around them. Even larger companies with more possibilities and knowledge to look ahead admit that this is the case. The investment decisions a company makes will be goal-oriented but with a short-sighted rationality based on present concerns as actual market opportunities, present production costs, directly available process improvement etc. With each new investment decision such 'here and now'

factors will be decisive. The direction of such investment in the 'social-economic space' with many dimensions: technology, market, resources etc., a company operates in will be different every time. Figure 1 shows this in a two-dimensional way. Although each step on its own is sensible, profitable (short term anyway) and 'goal-oriented', the overall result after some years of such 'sensible decisions' is a development which is not focussed but 'random'. After a number of years with such decisions the company has changed. The question is now whether the company actually should prefer to be in that new form/position. Is this the best starting point for the future viability of the company in view of changes that take place in economy and society? Thus: is the money spend in a sensible manner, also in view of long term developments and requirements?

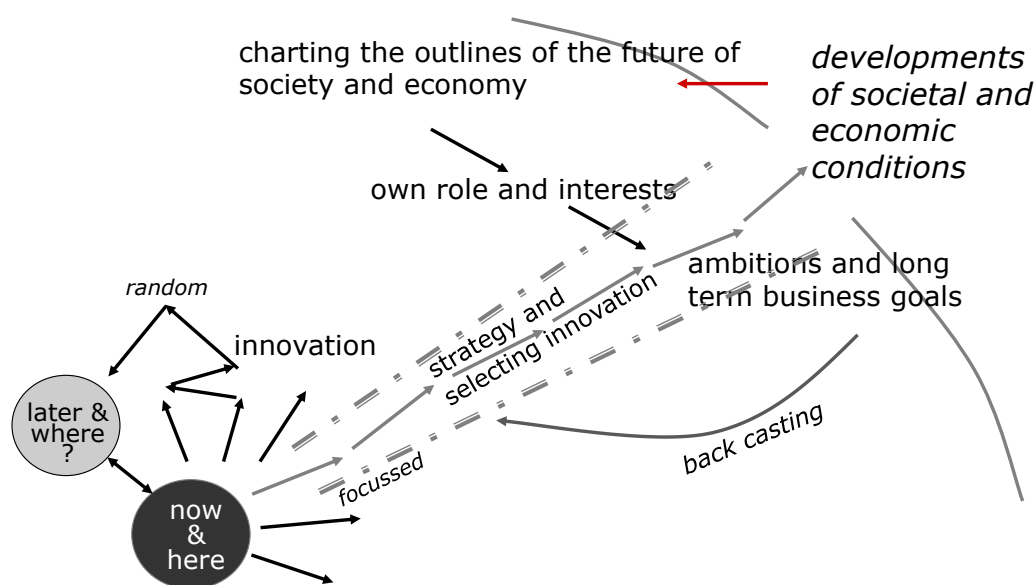


Figure 1. From random to focussed innovation

That can only be answered if there is a clear view on of what those future societal and economic developments and requirements will be. These form a sort of window of opportunity for the company and indicate the form and conditions in which it still can function and remain profitable. knowing that 'window of opportunity' is necessary to ascertain that the stepwise investments which a company does and new activities it ventures upon indeed lead into a direction which is likely to be favourable for the long-term viability of the company. Without such an insight any investment is just a gamble.

Of course predicting the future is difficult, certainly if it concerns details. It is however quite possible to recognise larger trends that take place in society and economy as a whole and to some extent also more industry sector specific developments. Based on this, issues

can be identified which will certainly affect the company and its activities. That offers the company the possibilities to map out a social and economic future in broad outlines, i.e. boundaries, the risks and the opportunities. How far ahead one can say something meaningful depends on the type of issue and type of activity. Fashion changes can be seen a year ahead, the growth of the population can be predicted 10, 20 years ahead. Nevertheless most views will concern the future in the coming, 5 till 10 years, with important trends for 15, 20 years and more. For energy for instance there are studies with scenarios for the next 40 and 50 years. Yet a picture which provides companies with manageable preconditions and points of interest for the next 5 to 10 years is already very valuable and certainly possible. It fits normal investment and depreciation terms.

It becomes increasingly clear that also for such medium term investments the 'traditional here and now' approach of decision making misses many opportunities and risks which can potentially affect the viability of the company. The drastic changes in societal and economic preconditions which already take place or are to be foreseen, are as yet mostly insufficiently reckoned with. Here sustainable thinking with its 3P metaphor becomes crucial. Each company must use it to assess risks and opportunities and make choices for a direction of investments of that, on the basis of its own ambitions and long-term objectives. That is the start to develop a strategy in order to make more targeted choices as to what innovations are interesting. So backcasting will be the best tool, not forecasting. There are always multiple useful innovation possibilities. The essence is choosing the one which will bring and keep the company on the right track for the future. In brief, a situation in which a company which makes an investment and concludes after 5 years: "if only we had spent it on something else", has to be prevented. Most companies can only allow this to happen once or twice.

### **3.2 The system character of sustainability**

Because sustainable development is unthinkable without radical changes in the complex socio-economic structures that form our economy, a company must understand its own place, role and interests in it (Geels 2002). Understanding the system character of society, sustainability and the effect of such radical changes (transitions) is therefore crucial. It is a subject of much debate, whether such transitions will happen spontaneously, due to economic drivers and market influences, or whether laws and regulations will be the major driver, but they will occur. So companies must understand their place and the role of their activities and products in these systems. They need to understand the effects changes in these systems make affect them and respond and adapt in the right direction to survive.

Important is also understanding on which system levels on which transitions relevant for their business take place and on which their response is the most effective. Three levels can be distinguished: the production sector itself, the production chain and society as a whole as shown in figure 2. (Venselaar, Weterings 2005).

On production level it concerns the own production processes which must be as clean and eco-efficient as possible. Relations with the own employees and the neighbourhood are handled on this level. On production chain level a company is a link in the production and material chain, from basic resource till waste/new resource. That must be made as lean and eco-efficient as possible. The chain must be closed by minimising losses and optimising reuse. On the societal level a company faces the challenge to respond to the changing needs and requirements that result from the 'sustainable transitions' in society and economy as a whole. In particular that offers new business opportunities next to many risks.

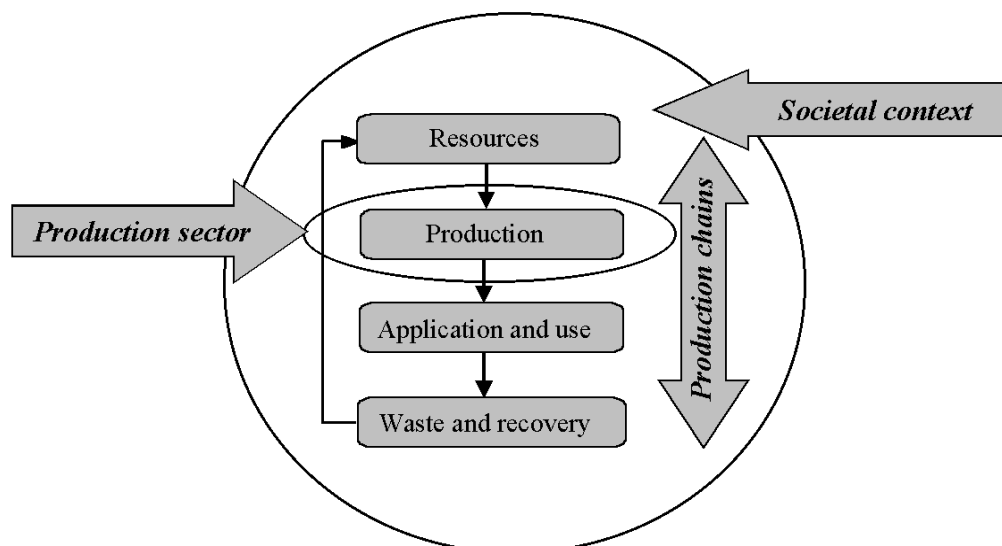


Figure 2: Three levels of systems and transitions

All too often companies address with their activities in 'sustainable business' only the production level. There the 'Planet' aspects (environment, resources, ecology) and employee related aspects (labour conditions) are emphasized. One reason is that many companies do have an environmental management system and use that as base for sustainable business management. That however functions on production level. The two other levels are the area of product development and marketing. These are commonly not well informed about sustainability. Also for this a better communication through the company as a whole is needed to come to a real sustainable business strategy on all levels.

### **3.3 Sustainability before innovation**

Innovations that do not take the (near) future constraints set by sustainable development into account or form an answer on the opportunities it offers, will likely not pay off in the end. Common practise nowadays however is to select first an 'interesting' innovation based on (commonly short term) financial and market factors. Sustainability is only brought in as the second step, intending to make the already selected innovation (appear) to be as sustainable as possible. It should, however, be the other way around. An innovation that appears to be sustainable in itself, doesn't necessarily fit in a sustainable business strategy leading to a sustainable and viable future for the company. A product based on a 'sustainable' technology which will not have a role in a future sustainable economic system, is a dead-end. Furthermore an innovation selected to address a key sustainability issue, is not automatically sustainable either. Sustainable housing could imply more transport or social problems. A renewable resource might create social and ecological problems in the regions it is produced. A strong prerequisite for any approach which attempts to find sustainable solutions is therefore testing on the risk of such biases and rebound effects.

## **4. The Fociss approach**

### **4.1 Principles**

The Fociss approach must result in:

- a practical framework to decide what issues, developments and innovation paths have real value
- create understanding, focus and commitment for sustainability
- basis and framework for a sustainable / CSR innovation strategy (as Bhattacharyya proposes)

Essential elements are:

- It deals with sustainability in its broadest form: People, Planet, Value and therefore also the aspects and issues that are sometimes treated separately as 'Corporate Social Responsibility' and 'Corporate Governance'. They all contain relevant issues and therefore might prove essential for a company in terms of risks or opportunities.
- It sees sustainability as a system characteristic and determines the place and role of a company, its products and activities on the various system levels, with the influences it experiences and it can generate due to sustainable developments and transitions.
- It covers the total production chain for a specific product/activity within the 'system levels' the company is part of. Issues, risks and changes in any stage before or after the own

activities will inevitably influence the company's products and activities. All too often these tend to be neglected because a company assumes they can not influence it.

- It starts with sustainability and uses that to determine the most promising and profitable (also in the long term) innovations.
- It identifies company specific and core business related issues and not just the 'fashionable' or those that are now debated broadly.
- It uses as much as possible the knowledge and the own views available within the company itself. External stakeholders, such as customers and NGO's could be involved, but it must still be 'the company's own choices and views'.
- The relation to the core business and activities of the company must be crystal clear. Only then it is recognised to be essential and create ongoing commitment.

The approach has been developed through practice based research in cooperation with many companies. They represent different sectors of industry: electronics, chemistry, food, construction of printing equipment, building etc. Their input, comments and preferences have been pivotal to make the approach practical and effective, for their purpose and ambitions, in particular for SME's. It should be simple, not time consuming and straightforward

That determines different practical principles and elements in the approach and the protocol.

- It should lead to a small workable set of priorities for obvious and effective actions. A company can only give effective attention to a limited number of priorities. If the list becomes larger than 3 or 4, real attention for the whole will dwindle. Anyway for a company commonly only a few sustainability issues are so crucial that it must handle them to survive and profit from major developments in that field. These always concern their core business.
- The whole company staff and key personnel including the director have to be involved during the inventory and selection of options. The workshops create 'transversal' communication which create broader insight and more effective commitment through the whole of the company. Optimally a platform for internal communication about sustainability, views and options should be formed. Selecting the key issues and innovations is only a first step to change course.

### *Commitment before 'completeness'*

Experience shows that studies and advice prepared by an external party does not easily create effective commitment in an SME, notwithstanding how well informed and scientifically based it is. Such reports are too often 'only gathering dust' because people do not feel

involved. Furthermore most companies, even the smaller ones, possess a lot more knowledge and insight in the relevant issues, backgrounds and available options than often recognized. It has just not been made accessible before. In our view creating commitment is, in practice, more needed when starting with a sustainable business strategy than 'scientific analysis and completeness'. So the method does not necessarily aim for 100% coverage of all issues and all possible profitable innovations.

## 4.2 Basic set-up

The structural elements of the approach are:

- a. A stepwise 'fast narrowing down protocol' (see annex) initially aimed at the key areas of sustainability, which are relevant for the company, secondly at the major issues within these areas and thirdly at the most promising innovations (in view of economics and sustainability). The 'zooming in' is structured in such a way that it leads to a significant reduction in effort and time a company and the advisors involved have to spend.
- b. Tools for discussion, reflection and selection, designed and adapted for this purpose. The main instrument is the 'FOCISS matrix' to define the areas that must be discussed. A rating procedure is used during interviews and during the workshops to stimulate forming of opinions concerning the priority sectors and issues involved should be given. The workshops are set-up such that they create optimal exchange of information and views.

### Zooming in

To come to a practical set of real priorities, it is necessary to zoom in on key issues that are specific for a particular company in view of its character, products, location, ambitions etc. 'Key' implies that they comprise a major risk for business, in any way, when not dealt with in time and in a proper manner. The principle is shown in figure 3.

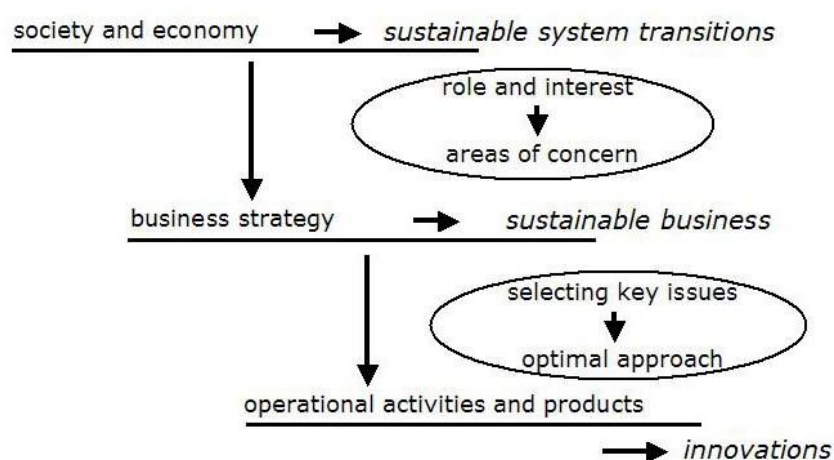


Figure 3 Stepwise narrowing down in the FOCISS approach

Initially is zoomed in on actual role and interest of a company in specific socio-economic systems. That is determined by the manner sustainable development might affect these, e.g. through system transitions that will occur as a result of that. Secondly is zoomed in on areas within the relevant transitions that are the most essential for a company's continuity in terms of opportunities and risks. Thirdly, within these areas the key issues are determined. Finally, for those issues the best approaches / innovations are chosen.

The protocol and tools to collect information and to narrow down on key issues and innovations is described in annex 1.

## **5. Some results**

### **5.1 Results in practice**

After some 20 studies, and its use by students in projects (see 6) for companies of different size and from different sectors some general conclusions can be drawn.

Typically 3 or 4 key areas are identified critical for the company in view of sustainability and in which the key issues and the most sensible sustainable innovations are to be found. Some were obvious or 'to be expected'. However on average one third of the identified key areas did not yet get much or even any attention at all as yet.

Results can be characterized as follows:

- 'Expected', often already being dealt with so it is to be expected therefore that they come up during the interviews. That mostly concerns better efficiency, reduction of energy use and waste in the own processes, so on the systemlevel 'production'. That does not imply that they automatically also formed the top priorities in the end.
- 'To some extent unexpected'. In every company a relatively high score was given to one or more areas which up till then were not seen as crucial. Issues concerned often the production conditions of intermediates purchased elsewhere or the way their products again are used. Typically socio-economic developments in the region or 'elsewhere' are a factor in this group of areas. An example is the availability of materials and intermediates which are imported from political unstable areas or which are based on 'unethical production practices'. These were considered less relevant before, because they were seen as not (easily) influenced by the company. These result were often on the system level 'production chain'.
- 'Totally unexpected': in some cases totally new key areas of attention emerged that had been overlooked before. One example was packaging, which most people in the company had seen as someone else's problem. But also complex changes in the use of



products due to changes in agricultural practice came up, which, besides being a risk, even offered quite new opportunities for business. In particular some of these results belonged to the system level society.

It is not a surprise that just the issues and innovations for these 'unexpected key areas' were found difficult to assess and address. They will need more time to consider.

## **5.2 The innovations selected**

In about half of the studies the last step: selecting key innovations, was not done. Some companies found the key issues sufficient for a strategy. Sometimes they were planning new investments anyway in which the issues could be taken up 'automatically'. Sometimes the complexity of the key issues defined was such that more study was necessary. And sometimes the foreseen innovations and measures were feared to be too complicated to implement and therefore not investigated further.

The impact and complexity of innovations determined the readiness with which they were accepted and likely (but that assessment has not yet done) the actual implementation. To some extent that parallels the characterization of key areas identified above, in which the system level of issues can be found back.

1. Innovations which target one specific issue and does not have a large impact on other issues or sectors, commonly on the production level of system transitions. (for instance a better separation, a new process, environmental measures)
2. Innovations that require actions in several stages and in the production chain, necessitating 'integrated innovation'. Examples are:
  - a new resource (biomass) which leads to new processes and somewhat different products;
  - accounting for socio-economic factors (eg bad labour conditions) in the purchasing policy will results in other partnerships in the production chain and possibly to other production processes and customer relations.
3. 'Revolutionary changes' in the way the company operates, products are made and in the way it helps society 'to take care of its needs'. For instance changing from a fuels producer to the production of solar cells. It could ask for disruptive innovations which eventually change the sector and even society in due course.

Most innovations that were proposed fall clearly in the first category. These are the easiest to think off, are often already available and relatively simple to implement.

The second category contains often ideas that live already within the company but are difficult and therefore low on the priority list. Those are not easily selected nor developed

further and implemented. Commonly the obstacles and risks are considered to be too many, certainly when it concerns really new technologies or ways of operating.

The last category of innovations is of course the most difficult to implement. It commonly will ask for much more research and development, concerning the technology itself but also the way it could be implemented. Often existing research and investment programs will have to change focus radically. Nevertheless the best opportunities for real and profitable sustainability, on the longer term, could be found there.

The impact and the complexity of innovations is determined by the system level they act on. At a higher level more partners and changes in present business practice are needed. Such changes can also have different impact on the way products are made, from small differentiations and some added technology till complete new and quite different processes. To assess that impact a simple diagram suffices. Figure 4 gives an example for the issues and innovations that were discussed in Fociss studies for companies from the chemical industry sector.

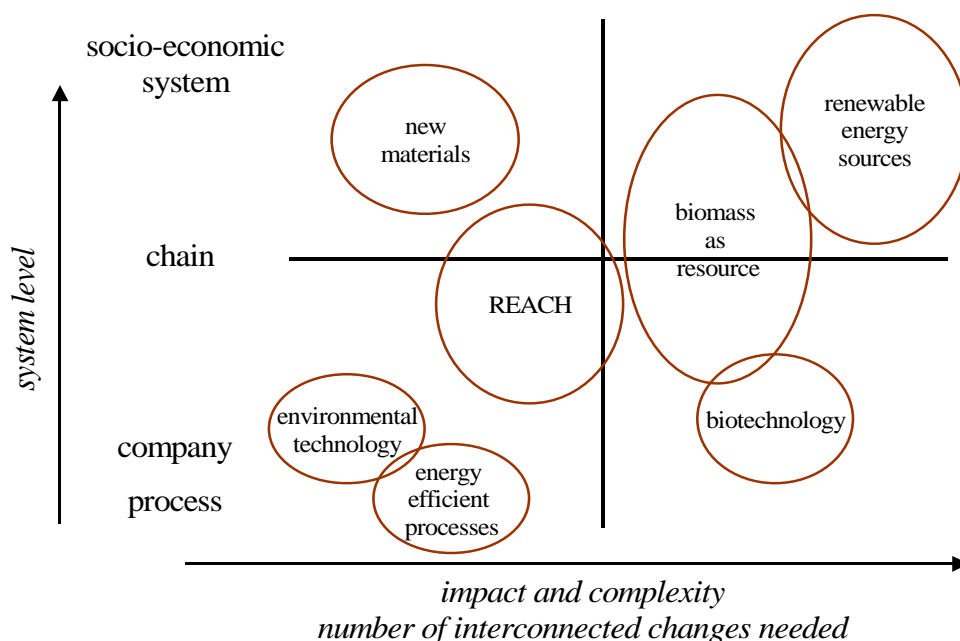


Figure 4 impact and complexity of issues and innovations in chemistry

It is obvious that innovations which companies preferred to select, tend to be positioned in the lower left part of the diagram. It is also observed that the better options for sustainability and viability are found more up and to the right side. Especially smaller companies however see too many obstacles to go there.

## **6. Fociss as basis for training business management students**

Since its earliest development the Fociss approach has been used in the studies and curricula members the research group are involved in. The essential elements for good and practical sustainable business management and corporate social responsibility are treated by it and form together a clear, coherent and logical unit. It covers:

- understanding what sustainability really is and what it means for a company, including the system character of it and effect of transitions that will occur;
- attention for all aspects and factors (3P) and at the same time emphasizing that for a practical approach priorities must be set;
- integration of sustainability in strategy development and innovation selection.

At the same time presenting it to students and discussing it, offers new insights and improves it.

The present 8 courses in which it is used all concern business management, daytime studies as well as post academic training. It is commonly a specific topic called 'sustainable innovation strategy' within a whole block dedicated to business strategy development, innovation management or 'societal aspects of business management'. It is place end of the second or start of the third year. In two cases it is part of a minor: 'management of sustainable technical innovation' and 'management of innovation'. In most cases the students have had an introduction on sustainability and sustainable development, in earlier blocks or just before in the same block. If that is not the case such an introduction is added to the topic. Time involved varies. That depends on the option if a workshop can be included and if they have to work out a specific case for a company.

Table 1 describes the variety in treatment of the topic as it exists presently at Avans and gives an indication of the time and effort involved for this specific topic. In a workshop students have to work on a small company case with an as much as possible real setting. For the master Marketing and Management that is commonly one of the companies a student works her or himself. In the other cases it concerns cases adapted from earlier studies we have done in projects with companies. We try also to invite companies to participate and present their own case. Time is of course short and it is only possible to get a 'feeling' of the approach and its possibilities.

table 1 present treatment of the topic 'sustainable innovation strategy' at Avans university

(part of) study	year	time for introduction (incl workshop etc.)	workshop	case	time by student <sup>1)</sup>
		hr			hr
minor 'management of sustainable technological innovation'	3	4		yes	60
minor 'management of innovation'	3	4		yes <sup>2)</sup>	60
small business management	2	6	yes		10
marketing and business	2	4			6
business economy	3	4			6
financial management	2	4			6
post grad Ms Marketing and Management		6	yes		12
post grad Ms Strategic Management		9	yes	yes	60 <sup>3)</sup>

1) approximate, that includes preparation for introduction, case, writing report, obligatory books etc.

2) but not all students do a case on 'sustainable innovation'

3) the main case for one semester of the study concerns 'sustainable strategy development'

Much more can be done in a real case, working for and with a company. In such situation a much more real view can be gained on how an effective sustainable innovation strategy can be drafted. Nevertheless in such projects there is still too short time and students are not experienced enough, to do the Fociss approach in full using the protocol and all steps, with interviews, rating procedure and workshops. For that we have made the Fociss approach into a set of sheets formatted in such way that automatically the 'protocol' is followed. It is called Fociss<sup>Light</sup> <sup>5</sup>. It has questions (and some explanation and examples) for each step one should do to determine systems characteristic of the product or process and to narrow down on actual issues and priorities. It leaves out the extensive interviews, rating procedure and the workshops. How complete the information can be depends then on the experience and information one has and how much time there is for contact and discussions with the company involved. So the conclusions from the cases done by the post graduate student, working in that company, then for the 2<sup>nd</sup> year student who has no earlier experience with companies at all. Nevertheless, most students show to be fast learners in critically assessing the ins and outs of a company.

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<sup>5</sup> The sheets are available (also in English) on the website of the research group, [www.duurzamebedrijfsvoering.nl](http://www.duurzamebedrijfsvoering.nl). The website is in Dutch, but look under "wat doet de kenniskring" and then under 'Fociss'.

This Fociss<sup>Light</sup> format is also used in the workshops with students, in an introductory manner. It shows the philosophy of the approach and it gives a glimpse of what it could deliver. It is further used in workshops with companies, consultants etc. as part of training and discussions on the possibilities and challenges for sustainability and innovation, for instance in the earlier mentioned 'DOE-MEE' project.

## **7. Conclusions and further development**

The companies involved agreed that the approach leads to a selection of essential sustainability issues and innovation courses over a broader range of areas than they had considered before. Besides, they acknowledged that it resulted in actions that they indeed 'recognize' as vital to its core business. It was also obvious that developing a sustainable business strategy was less complex than appeared at first sight although that complexity returned when discussing implementation of the more far-reaching measures.

This has a message for research and knowledge institutes as well. The question is if research time and efforts are actually spent sufficiently on what companies really need and society requires from those companies. All too often new knowledge and technology is pushed as 'being sustainable on its own'. As is mentioned, focus should be on innovations that contribute to the essential sustainability of companies, not on innovations that 'are' sustainable as such.

Avans university has decided that sustainable development has to become a main theme in all studies. In that respect it builds further on its earlier efforts to integrate sustainability in its curricula: the CIRRUS project which has been described earlier in these conferences (Roorda et al 2002). Practical and clear sustainable business approaches are essential in that respect. And we are convinced that the very practical approach we developed with Fociss, forms a substantial contribution in that. What we intend now is to gradually make a more uniform approach for introducing the topic 'sustainable innovation strategy' in the various studies, with practical cases as an essential element. Furthermore introduction of sustainability as idea and driver of new developments in society and economy, should be strengthened in the first year of the study already, on which we can then build with sustainable business approaches.

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## References

[<sup>tertso</sup>) indicates that the publication is available as PDF on [www.tertso.eu](http://www.tertso.eu) : look under 'publicaties'.]

Berendsen G.J., Ansems A.M.M., Appelman W.A.J., Venselaar J. (2006). 'Profit for Sustainable Business, the DOSIT approach' *Kluwer-reeks "Kwaliteit in Praktijk"* C2-11 (June 2006) (in Dutch)

Bertens C.A.M., Pasaribu M., Gombault, M., Kossen K. (2008) , 'Duurzaam ondernemen in het MKB: kansen grijpen!' (Sustainable business for SME's, seizing the opportunity), EIM-Beco report M200810, EIM Zoetermeer & BECO (in Dutch)

Bertens C.A.M., Gombault M., Kossen K.(2009), 'Winst door investeren in duurzaamheid Benut het MKB-metaal de kansen?'(Profits from investing in sustainability. Do SME's in the construction sector use the opportunities?'), EIM-Beco report, EIM Zoetermeer & BECO (in Dutch)

Bertens C.A.W., Mooibroek M. (2010), 'Evaluatie DOE MEE project, Inzichten uit een proefproject' (evaluation DOE-MEE project, observations from a pilot program) EIM Zoetermeer, 7 mei 2010 (in Dutch)

Bhattacharyya SS. (2007), Development of a CSR-strategy-Framework, *Congress papers Corporate Responsibility Research Conference (2007), University of Leeds, UK, 15-17 July, 2007*. (available as <http://www.CRRconference.org/downloads/crrc2007bhattacharyya.pdf>)

WCED (1987) World Commission on Environment and Development; 'Our Common Future', New York, Oxford University Press

Geels F. (2002), 'Understanding the dynamics of Technological Transitions. A co-evolutionary and socio-technical analysis', Twente University Press, Enschede

Leopold L.B. et al. (1971). A Procedure for Evaluating Environmental Impact. US Geological Survey, *Geological Survey Circular No. 645*, Washington, D.C.

Pfister A. (2008) 'Which characteristics of SMEs have an effect on CSR activities, and in which way do they affect them? A multi-method approach.' Master Thesis Universiteit van Amsterdam. (available through <http://www.mvoscripties.nl/>)

Roorda N., Severijn T., Venselaar J. (2002), 'Integrating sustainable development in engineering education, The novel CIRRUS approach', *congress papers Engineering Education in Sustainable Development EESD1, October 24-25, 2002, Delft, the Netherlands*<sup>terts<sup>o</sup></sup>)

Venselaar J. (2003), Sustainable Growth and Chemical Engineering; *Chem.Eng.Technol* 26, (8) 868-874<sup>terts<sup>o</sup></sup>)

Venselaar J., Weterings R.A.P.M. (2005), 'Sustainable Development in chemistry, engineering and industry, spontaneous transition or innovation paradox?', *Congress papers WCCE 2005, Glasgow*<sup>terts<sup>o</sup></sup>)

## Annex 1 Short description of the FOCISS protocol

Table 2 describes the actions and the order in which they have to be done that have to be taken to come to an 'best set of sensible priorities'.

Table 2 Outline of the FOCISS protocol

	phase of study	focussing on	activity, tool
1	Preparatory	introduction in company	
		selecting participants from staff and management	
2	Scope	coherent set of products/services with comparable production chain	
		collecting background information	
3	System oriented	identifying the role of company in economy and society, for the specific products and services	
		levels involved	
		system / level specific issues and developments	
4	Sector oriented	main specific issues in the industry sector	
5	Key areas of attention	information and views available at the staff, and if possible other stakeholders	interviews Fociss matrix (electronic version)
		selecting the main areas of concern for the company	workshop
6	Key issues	inventory and elaboration of issues named for the selected key areas of attention	
			workshop
7	Priority of sustainable options and innovations	inventory of options and likely (technological) developments	back-casting
		rough estimates of costs and (future) profits and 'sustainability effect'	economic models technology review
		selecting best options for the present strategy	workshop
8	Implementation	determining needed actions and attainability actors to be involved	complexity chart

Adherence to the protocol has proved to be necessary to get a complete picture and prevent 'short cuts' which in the end created a less convincing set of options and priorities and therefore created less sense of urgency and commitment. When adhered to, the result is:

- high relevance against little time spend;
- strong involvement of own staff leading to strong commitment;
- a small number of really crucial priorities but high profile in company.

The people involved are strongly incited to give their personal views and to come up with all issues they know. They often know more then they are used to communicate within the company. It might be the information which will prove crucial.



## Preparatory steps

An introduction in the company of sustainable development is often very much needed. Confusion as described before, must be reduced as much as possible. It clears the ground for an open discussion on what sustainable development really is and what that implies for a business. Misunderstandings, wrong assumptions and clearly biased views have to be overcome. Otherwise these will hamper any interview and discussion in the workshops.

Selection of participants for interviews and workshops should be done in such a way that for all relevant situations and issues someone with expertise is involved. External parties as suppliers, customers and NGO's might participate.

The scope of the study must be defined. Subject of the study must be a well delineated set of products or activities which together are sufficiently coherent and comparable, from resources used till final use and reuse. In the various stages of the different production chains the differences in actions and situations must be small. When not consistent, selection of issues and innovations is almost impossible. So it is possible that for a company different studies have to be done when they have different products and activities.

The inventory of relevant trends and issues concerning sustainable development that occurs in the particular industry sector is called a 'sustainability mirror'. They have been made often within specific sectors themselves already, such as for chemical industry.

## The FOCISS matrix

To get a complete overview of all aspects that have to be reviewed, a matrix was drafted covering the whole production chain and all sustainability issue: the FOCISS matrix (fig 5).

criteria: - can it affect the business - short or long term - strategic and economic effect - effect on sustainability	resource extraction	intermediate products	transport and storage	production Steps	storage and transport	product use and maintenance	discarding, recycling
<b>sustainability aspects</b>	<b>production chain and product life cycle</b>						
Planet environment, resources, ecology							
People socio-cultural, personnel							
Prosperity (Profit) value for company, society and other stakeholders							

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Figure 5 FOCISS matrix, used for the interviews (normally in electronic sheets to be filled in)

Confronting people with the matrix in the interviews, stimulates them to use their imagination and justifies them to express their views on topics they otherwise would (like to) neglect. It has been based on a matrix developed specifically for environmental issues but proved its value in various other inventory methods (Leopold 1971). The separate steps of the production chain to be reviewed is on the horizontal axis. Since these can differ from company to company, they have to be adapted for each individual case. On the vertical axis the various sustainability aspects (People, Planet, Profit categories) are clustered into about 12 groups. So the matrix gives 80 till 100 areas of attention to be inventoried.

### **Interviews and follow up**

Commonly four to five key persons are interviewed. These give the information and views on all possible aspects and issues that might be of interest for a specific field. It concerns risks and opportunities with respect to continuity, sustainability and profitability. They are asked to rate their opinions on how crucial they think the issues are. The number of interviewees might differ, dependent on the size of the company. We found that a larger number of interviewees did not result in many more issues or more precise ratings. The information is gathered and discussed in a workshop with the staff and other parties involved. Based on this inventory, 3 or 4 key sectors (= fields) are chosen.

In a following stage the issues are assessed in more detail. Subsequently 3 or 4 key issues are selected. In the last stage the possible innovative approaches to handle those key issues are being inventoried and assessed. A first evaluation of their economic effect and their real effect on the sustainability of the business is made. On the basis of that outcome, a choice is made for the most useful innovations in a third and final workshop.

### **Workshops**

In the workshops all persons that are interviewed participate and preferably also other staff which is likely to have views and additional information on the issues that have emerged from the interviews and workshops. Involvement of the staff in the decision making process is most likely improving their commitment in the following implementation process.