

# **SUSTAINABLE ENTERPRISE 3.0**

## **THE STRATEGIC APPROACH OUT OF SELF-INTEREST**

**DO'S AND DON'TS & SOME MYTHS DEBUNKED**

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# **Sustainable Enterprise 3.0**

## **The Strategic Approach out of Economic Self-Interest**

### **Do's and Don'ts & Some Myths Debunked**

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The book summarizes the experiences and knowledge accumulated during those years in this particular field of ‘strategic sustainable business development’.

All publications and research papers from the research group are available through:

[www.academia.edu](http://www.academia.edu)

[www.researchgate.net](http://www.researchgate.net)

[hbo-kennisbank.nl](http://hbo-kennisbank.nl)

For more information on the ongoing research focused on sustainable development at Avans Hogeschool / University for Applied Sciences, see:

[www.avans.nl/onderzoek/expertisecentra/inleiding/sustainable-business\\_1](http://www.avans.nl/onderzoek/expertisecentra/inleiding/sustainable-business_1)

## THE AIM OF THIS BOOK

The world economy and society function by means of enterprises and businesses, large and small, millions of them, with an enormous variety in set-up and operating in many different fields. They deliver goods or services in return for a fee. A viable business must, of course, deliver goods and services that are in demand by customers and for which those customers are able to pay. The fee should outweigh the costs, especially in the long run. Businesses must therefore also be and remain profitable. Sustainable businesses must do that too, and more.

This booklet addresses the essence of sustainable business: knowing what customers want, with their explicit and implicit expectations, being able to deliver that in a fair manner and for a fee which they deem reasonable, taking the explicit and implicit expectations of customers, society and the economy into account. To be able to continue doing so, businesses must continuously evolve. Sustainable business therefore deals with understanding those expectations, the conditions to deliver and the changing conditions and requirements, now and certainly in the future.

Sustainable business development needs more than introducing new technology in an unchanged business approach. It has an important strategic element. Sustainability concerns the future conditions, opportunities and challenges we all face.

Sustainability requires a lot of the business owner, more than many companies are presently aware of. Business owners must take the future into account. This should lead to changes in business strategies, often fundamental. If not, the company's viability will be at stake, in the near future or on the longer term.

An entrepreneur must therefore take into account all kinds of requirements and expectations, often not easily visible, when selecting products, production processes and business models. These requirements and expectations represent what we as a society, and individually as citizens or consumers, see as valuable. That entails a wide range of different fields of concern: health effects of food, the way companies treat consumers and their employees, small- and large-scale environmental issues and social issues.

This means that ethics and politics come into play when making business decisions. Effects and the concerns they give rise to can be noticed right away and in our immediate surroundings, but also far away or only on the longer term. Because of faster and better communication, social media and open access publications, everyone can be aware much better and faster of what is going on and what might affect us. Even if some issues are seemingly far away, we cannot ignore them, because in a global economy these issues and events will also affect us directly or indirectly. Customers, society and politics will demand a fitting response from businesses. It will only get harder for businesses to ignore this, or to dismiss this as 'alarmist', if they want their activities to sustain in the future.

A company has to deal with not just these external forces and requirements, but also with the possibility and feasibility to produce and deliver. That concerns all the resources the company needs: raw material, space, finance, people and infrastructure. These have to be and stay available in sufficient amount. But demands increase and availability can decrease, meaning shortages will arise. Here we see again that businesses encounter changing conditions. Businesses have to deal with availability and how we as a society and as citizens and customers expect companies to deal with deficits, socially and economically.

All this has far-reaching consequences for a company. Responding to changing conditions effectively requires interventions aimed at the core business of a company, the products, processes, organisation business models and strategy.

Therefore, a good analysis of what sustainability means for your company and which conditions, opportunities and challenges are relevant is needed to develop a business strategy that is effective and efficient. However, there are no ready-made formulas for this. It requires a good understanding of what sustainability really is and getting rid of too much ideological colouring. And it demands a better, sometimes completely new way of looking at all factors and issues that might be relevant for a business.

This booklet is an introduction into the manner one needs to assess and modify business approach and practices in view of real sustainability; sustainability that is effective and advantageous for the company as well as for 'society'. It provides the different ways of reviewing business strategy concerning sustainability and some methods to do that. This means it focuses on the strategic 'character' that corporate sustainability must have: 'sustainable enterprise 3.0'. It offers a view on how to develop a strategy for sustainable business development by describing a systematic approach. The concepts and considerations that matter when looking at sustainability as a strategy are being described.

Other sustainable business topics such as sustainable marketing, sustainable operations, sustainable financing and corporate governance, are only briefly introduced. Those need a much more extensive treatise than can be provided in this booklet. Literature that addresses these aspects more specifically and more extensively, and further relevant material, can be found under 'Literature and references'.

Furthermore, an important obstacle for the introduction of sustainability into businesses are the many misunderstandings and misconceptions that exist regarding the theme. Therefore, it is considered necessary to elucidate what sustainability really entails and why it is of importance for every business.

The booklet is meant in particular for students at universities of applied sciences and academic universities. Management and marketing students need to understand the backgrounds and principles of the strategic considerations mentioned in this book, and be able to use these strategic considerations. In their future career they will work in and with companies that are struggling just with these questions: how to remain economically and socially relevant.

Since this book is as much as possible focused on practical application in companies, it is certainly also of interest for managers who orientate themselves on the means to steer their company towards future viability.

The booklet has different parts.

Part 1 outlines what needs to happen, what aspects need attention and which means are available.

Part 2 describes some myths about sustainability. These misunderstandings are the root of the problem that companies do not recognize the strategic importance of sustainability and corporate social responsibility. Such myths can also be the reason that companies don't choose effective means to attain sustainability.

In the original Dutch publication Part 3 offered some guidance for teachers and lecturers starting with this topic in courses. It is not in this translation because educational forms and methods in this field is rapidly evolving.

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## INTRODUCTION

### *Today is tomorrow's yesterday*

Sustainability increasingly forms an essential aspect in the commercial and strategic considerations of companies and of the choices they make. That is only effective when this is sufficiently wide and forward-looking. Any company that only views the 'here and now' and focuses solely on results and profits in the short term, will have no future.

Sustainable business must imply that an entrepreneur has a much broader and more forward-looking view on the issues and aspects than what is presently seen as prudent. They really have to keep an eye on many sorts of development and to be aware of shifts in expectations, requirements and conditions for the business in unexpected areas. Products and production methods must be adapted continuously to fit new demands and new conditions. Sustainable entrepreneurship is future-oriented business. If you do that 'tomorrow', you are quite likely too late.

One reason that this is not always taken too seriously is there are many myths and preconceptions about sustainability and sustainable business. That often hampers many well-intended attempts to really start with business sustainability. In part 2 'Myths' of this booklet a number of those will be discussed trying to lift some of the confusion that often arises and to help convince companies to go for 'sustainability in one's self-interest'.

The term sustainability is used frequently but often with quite different meanings:

'Sustainable products and services', 'sustainable processes', sustainable marketing' all seem to suggest that a business can become sustainable by just adapting the product, process or its marketing concept. See Myth 7 as discussed in part 2. That is absolutely wrong.

Sustainability concerns the whole strategy and all aspects of a business together. A company is only sustainable when it contributes in all aspects and with all its activities contributes in an effective manner to a sustainable society and economy. See myth 1 in part 2.

### *A simple principle*

Sustainability as such is actually a rather simple principle: striving for a society and economy which can be sustained, also in the long run. See myth 1 in part 2. It is not just a concern regarding if we can still produce and supply the things we need as food, clean water, transport etc. It is a much broader concern. How is the quality of our lives, health, our living conditions and income in general? Is there some reasonable degree of well-being for everyone, political rights, justice, and freedom to do what one likes and to express oneself? That is the hallmark of a healthy and stable society and economy.

It is not out of overly idealistic or utopian motives that you should want such a stable society, but out of self-interest. What we give, others will give back to us. You can try to keep others off of what you grant yourselves and your own group with violence and political pressure, but that is a very unstable state and will not last forever. And from a practical point of view, maintaining that violence and political pressure requires lots of money, energy and attention from the suppressor as well as from the suppressed. That could be used much more efficient for improving the economy and well-being in general. Suppression always comes at the cost of prosperity.

Here is also another incentive for businesses to engage in and support sustainable development. A healthy business relies on effective demand with customers who can pay for it. Prosperity is a prerequisite for a healthy economy in which business can flourish. And of course some countries

show that even in collapsed economies some people, the ruling class, can become rich. But as is shown over and over again: 'earning money by selling to prosperous customers is more profitable than supporting regimes that keep the people poor'. Business themselves have some influence on how an economy evolves.

### *Reinventing each individual business*

Is sustainable business just 'doing good business'? It certainly is to some extent. Ultimately the goal of business is putting a product or service in the market to acquire an income. So you have to deliver something which the market demands and which makes a profit. There must be a well thought out business and revenue model. However the broader view brings in new criteria and modifies the present ones that must be met by the services and product.

An entrepreneur will have to figure out which of all those new and somewhat different criteria apply for his/her business. They will need to look for new answers. How do such criteria affect the actual function of a product or service? How must the way products are made change and how the business model for putting products on the market?

The bottom line is that every company must develop a novel approach and strategy to get ready for the changes in the economy and society. Those will occur, like it or not.

So they all must reinvent themselves.

In what respect and how much a business needs to change, will differ for each company. Sometimes changes will have to be substantial, sometimes they seem small. For each individual company the choices and changes will be particular and differentiated, focused on the specific situation, options and ambitions of that entrepreneur and business.

Reinventing a business is nothing new. Time and again companies discovered that what they were doing what they were strong in, was not fitting with the demands of the economy, the society or just their ambitions. So they had the choice to 'fade away', go bankrupt or 'reinvent' themselves. Companies who are not able to take that step, disappear.

A good example in the Netherlands is DSM. It has transformed itself, in some successive phases, from a coalmining company to a world player in biotech. A negative example are the several retail chains (such as V&D in the Netherlands) which stuck to the old ways too long.

Other good examples are Fuji, which transformed from a producer of photographic materials into one that produces advanced thin films and other products for technological applications as for health. Nokia became a mobile phone company but started as paper producer and supplier of forestry equipment. Also the telecom business as a whole had to reinvent itself after the introduction of the mobile phone, and again after mobile internet.

It is often less spectacular. And certainly for SME companies this happens mostly out of sight for the public. Shops with a general assortment have specialized and took to E-Commerce. Producers became importers and remanufacturers. Farmers become very large scale or specialized, small scale and organic.

### *Need for a more mature sustainable business phase*

Mature sustainability in a business setting implies that effective incorporation of sustainable issues, methods and values is self-evident. There is no need for real strong external pressure or 'non business related' arguments to do what is right. If you really need to survive as a business, you just



do that. That requires understanding of what sustainability is and how it relates to sound business principles and goes further than is often the case in the present approaches. That more mature phase we call 'Sustainable Entrepreneurship 3.0'.

Phase 1.0 aims mainly on improving environmental performance and cost saving such as on energy and disposal of waste and often aims at creating good PR with the surroundings. It strongly focuses on the production level and the processes therein. Measures can be far reaching and quite innovative but they do not change the enterprise in its core. The driving force to do it consists mainly of the notion that corporate sustainability is socially desirable. It is a 'social must'. In costs it is just a necessary expense, with luckily some operational benefits.

In phase 2.0 companies enter the markets for sustainable products and services. It has a much stronger business drive. Sustainability certainly sells, and increasingly so. Furthermore the extra effort to position itself as a socially conscious company is seen as an asset too. It is focused on the production chain level, looking at products and services that are socially desirable and critical about what is happening in the supply line. It is a 'market must'. In costs it is a good investment, if they are on the right track for sustainability with the products and services that are developed.

What is in those sustainability stages 1 and 2 the vision on what a sufficiently successful sustainable business entails?

- the right 'sustainable niche', in the present markets;
- a sufficient number of customers, motivated by sustainability, individuals or companies in the B2B market.

However, such a vision is not really different from the present classic way of entrepreneurship. Sustainability makes it nicer and more socially acceptable. Sustainability is still 'an extra' and not a crucial aspect of an economy that will be able to supply us all with all the products and services we need. One concentrates on the 'now' and a future strategy is lacking.

As an example of the different stages, look at car manufacturing.

Phase 0, for completeness, is the 'legal must'. A producer conforms to all legally imposed and commonly accepted laws, standards and practices, for the cars they make and for the production facilities. Some call that already 'sustainable', because they accept the rules. And it is true, not all manufacturers are already in that phase and try to dodge them. Besides many still lobby for less rules or at least delayed introduction.

Phase 1.0 stands for improving the manufacturing conditions such as less emissions from spray-painting, better work conditions etc. An example is the Cradle2Cradle facilities Ford built at their main quarters.

Phase 2.0 stands for greener cars, low emissions and reduced fuel consumption. That can be redesign of the 'classic' combustion engine, adaptation to biofuels, hybrid cars and completely electrical cars (which then of course need 'green electricity' from somewhere).

Phase 3.0 is the final approach, finding new ways to set up efficient transportation, with less cars, different modes of transport, eventually leading to much less energy use and negative effects from emissions, noise, unsafety etc. And in such manner that people will like it better, will accept and applaud the change: disruptive innovation and system transitions are needed. How that will be for transport and cars, is as yet unknown. But a future viable company will need to work on it.

In some other businesses, as in energy supply, such system changes are already visible.

### What is the sustainable enterprise 3.0?

A sustainable enterprise in phase 3.0 takes the vision on the future as the first step. Companies are successful only if they are really oriented on what the future brings and asks for. And we all assume that that future is sustainable. Ever met a person or company whose ideal is 'a non-sustainable future' meaning one in which society and economy collapse?

Then sustainable entrepreneurship is not just producing something 'sustainable' in its present appearance. It's genuinely taking account of sustainability in all aspects, factors and conditions essential for one's business. It's also not about doing something nice for the society but responding to future social and economic developments and the conditions and new requirements these will create. That can mean a reduced availability of raw materials, the social conditions in which products are made, sufficient generated income for people to be able to buy the products produced. If a company does not meet those new conditions, it has no right nor opportunity to exist in the long run.

Some characteristics of the various phases of sustainability in an enterprise are given in table 1. One should be aware that for different aspects and issues a company can be in different phases: for specific environmental issues concerning the product in 2 or even 3 while for social aspects it maybe is only in phase 1, or even just in 0. That of course makes it difficult to assign a specific phase to a company as a whole. Nevertheless it is observed that a certain level, of awareness for the importance of specific issues often leads to increasing awareness on other sustainability issues too. Also because third parties will tend to assess a company on all its actions concerning sustainability.

*Table 1 Characteristics of different phases in business sustainability*

maturity	system scope	basic drive	company level	attention
0.0	separate activities and processes	laws and regulations	operations HSE	compliance technological solutions end-of-pipe
1.0	production (as integrated activity)	neighbourhood societal acceptance	communication HSE	prevention & integrated approach ISO 14000 EMS social activities
2.0	chain	resources market opportunities	procurement marketing design	green logo / certificate sustainable procurement cooperation in the chain
3.0	society	future of the business	owner / CEO	long term ambition new business models reinventing the business disruptive innovation

*note: driving forces and characteristics of a lower level of maturity are of course also still relevant but less dominant and more self-evident.*

## PART 1: A MANUAL

# DEVELOPING EFFECTIVE SUSTAINABLE ENTREPRENEURSHIP

*Sustainability is inseparably connected with the core business of a company. It is an essential quality characteristic of it. Thus to be able to determine what sustainability means for your business requires a fundamental understanding of what your core business really is and how that needs to evolve.*

## 1 The core competences for effective corporate sustainability

To succeed as a sustainable enterprise, you need to make your company effectively future-oriented. This asks for scrutinizing the actual future tenability (viz sustainability) of the five core qualities of your company:

### 1. **Function, value and role of the product or service**

For the customers, for society and within the economy as a whole and the changes therein on the shorter and longer term.

### 2. **Production chain**

Availability and maintainability of essential production factors such as access to raw materials, space, regulations and societal acceptance, sufficient trained and motivated employees, during production in the company itself but explicitly also those at play in the separate steps in that whole chain, before and after, reckoning with present and future changes in conditions that can occur in all separate steps.

### 3. **Strategy**

Responding to those new demands, requirements and the constraints due to that changing economic, social and sustainable framework.

### 4. **Social acceptance**

Taking into account the social impact that a company has with its activities, its products and the way it conducts its business.

### 5. **Organisation and anchoring**

Organise the internal and external processes, in particular regarding this developing sustainable and ethical framework.

Entrepreneurs who are involved in sustainable business practices for some time already, agree that paying attention to sustainability in these core qualities of a business is sensible and logical. That is just common sense and good entrepreneurship. It should not be something 'special' or 'extra'. In economic evaluations, for instance in stock market assessments, sustainable enterprises appear to achieve better. Stocks are higher and profits more consistent. A sustainable entrepreneur is found to be more aware of changes and demands, and of new opportunities. He/she does not shun from a challenge and is often more creative and flexible in his/her response. Sustainability just motivates him/her to shake up the company. Besides, it is a logical issue to address when being a future oriented company. A real entrepreneur is one who loves the challenge of new opportunities, and is not only interested in efficiency and reducing costs of what is there already.

To determine which aspects of sustainability are relevant for those core qualities of a particular company, a good assessment is needed, the right choices must be made and priorities set. Sustainable entrepreneurship is not 'just doing what seems nice' because of a hype, something that came to the attention by chance or through an advisor who passed by. That requires looking at your business from different perspectives. That is discussed in chapter 2. It must lead to a future oriented strategy. What that entails is described in chapter 3.

Our presentation of these particular core competences for sustainability and the order in which we present them, are the result of the studies done by the research group sustainable operations since 2002. That research was focused on developing a practical approach that enables companies to identify sustainability as a strategic factor and to be able to determine priorities in the implementation of better products, processes and practices. A main outcome of that research is the FOCISS method discussed in Chapter 4.

## 2 Function, Place and Value

The core business of a company revolves around the function, place and value of a product or service it makes and delivers. That must be mapped to understand how changes in the economy and society can have an influence.

It is not so that choices made here can always directly determine if a company will become sustainable. Nevertheless the analysis must lead to development paths and actions that are focussed on the right and really viable core business and must offer in essence the best options for becoming sustainable. At the same time discussing function, place and value of an activity and product, opens up new visions for a really sustainable approach. It altogether necessitates a rethinking of your business and approaches. Furthermore many paths towards sustainable business are closely connected with novel ways to offer functionality in new business models.

In determining function, role and value of your product or service, and your company as a whole, you need to look at it from different angles. Only then a complete picture can be formed.

Many companies supply more, sometimes quite different, kind of products and services. Philips for example produces lighting and medical equipment. When assessing function, role and value regarding sustainability you of course need to do that for the specific different core-businesses and products separately. For one activity some aspects might prove strategically essential, but can be less and even not at all relevant for the other.

The four different perspectives to examine your core business on are:

- Function thinking
- System thinking
- Chain thinking
- Value thinking

It is not always clear which perspective is most important. They are complementary and affect each other and are interdependent. A product or service has a function within a system (a mobile phone within the way we communicate). One system can be essential for other (to make mobile phones you have to deal with the raw materials supply but also with international trade and labour organisation). And through an additional value or role a product has, it may have a function in other systems too. A mobile phone is useful for communication, but nowadays it also serves as camera, navigation device and sometimes as status symbol when you bought the latest and most expensive one. Besides it influences how we organise work: you are always available.

All perspectives are important and 'hidden' values are sometimes the more important ones.

To analyse that the above given order is often the most practical.

### 2.1 Function thinking

You buy a product or service because it has a specific function for you. You use it for something. You don't buy something because of the thing in itself. Even in the case of art it is the function such as the pleasure it gives you when you see it and/or its value when it is bought as an investment.

When producing and selling products and services you should therefore go deep when evaluating the functions a product has and what could change in that respect. And be very conscious of the real function that your product, service or activity has. When you sell travel packages: the main function is not 'travelling' or the destination as such, but a holiday to relax, having a special experience, a business meeting. You sell gasoline: the function is the wish for transport and mobility, to get somewhere. Sometimes that function is obvious, sometimes it is not. And a product might have hidden functions an entrepreneur is not always completely aware of it. That hidden and additional

function of a product must be understood correctly and completely. See also 'value thinking' discussed later on, a section in which just those often hidden functions prove to be important.

A table can be used for many things, but the essence is that you place something on it which you want to have at hand and work with. It is for food, for work, for reading etc. Its specific function determines how it is made and how it is put on the market. That constantly changes. With the rise of the personal computer, special tables were made for it. They were designed so that the monitors and keyboards could be used ergonomically optimally. Now there are lightweight laptops, notebooks, tablets and ultimately mobile phones. Those weigh less and less so you hold them on your lap and in your hand. Gone are those special table designs and when working on your computer tables are just to put the coffee on. That computer table manufacturer had to turn somewhere else. And was he in time to do so?

Cars we need to get from A to B, to work, for leisure etc. The function of the car decreases as we go teleworking or change our habits concerning work and recreation and when other transport facilities become more convenient, for example to avoid traffic jams. Furthermore there is more and more car sharing. Does the company that produces and sells cars then close or reduce its activities? Or does it enter the market with services and products that support this changed car use?

And although the main function of a car is mobility, it is also a symbol of freedom, independence and status, often the main reasons to buy a specific car.

To have a successful and really viable business it is therefore crucial that those aspects of the market are mapped and understood. Market not as a business abstraction but as the sum of what customers really want, expect, explicitly or implicitly, and what you yourself want to achieve. As conditions change and thereby the functions change or even disappear, you'll need to be aware thereof in time.

Too late a response on changes in function, no or wrong response on such hidden functions and new functions people ask for, is lethal for a company. When a response on those changes is in time, the value of your product will increase.

Examples are the transition that occurred in photography from analogue to digital. Kodak went under, Fuji was aware of it in time and switched to other products which they could make with their expertise such as membranes.

The mobile phone became an alternative for the digital camera, certainly when the quality of lenses increased. It was not a primary function but nevertheless one that determines the customer's choice. Nokia was too late.

Also music streaming services such as Spotify affected the classic approach of selling music through CDs. At the same time vinyl sells very well again. So what is its hidden function?

E-readers and E-books on tablets have a large impact for the traditional publishers. But books with extras, nicely bound, nice large photographs are still selling well, offering another function!

In quite another field: GM kept believing in large fuel guzzling cars, offering that extra 'status' function. But consumers became less interested in that. So they were outmarketed even in the US by the small Japanese fuel-efficient cars.

When considering 'function', answers have to be given for the following questions:

- Who is using my products and services and what function do they really have?
- Are these functions and uses changing, also due to sustainability issues?
- Are these functions going to be performed by other products and services and/or in other ways? Is competition or replacement from a completely different area possible? Do substitutes or new entrants already exist?

- As functions disappear or change, how much impact does that have on my business? Do I need to produce something else or do I need new expertise? Should I change the product or produce it in a different manner?
- What adjustments are needed in my business model? Can I earn decent money with the present way of doing business or does it call for another marketing model and customer relations?

### *Function thinking and sustainability*

Sustainable development, the transitions that fuel it and which come with new requirements, will be a major factor shaping the functions we want and need in the coming future. They leads to new demands, other boundary conditions and requires novel solutions with quite other functions. Sometimes the products may stay the same and only its function and use changes, sometimes a fundamental adjustment has to be made or total new products and services are asked for.

At the same time the manner in which that function is delivered might change fundamentally and so other business models have to be thought of.

Furthermore, one should be aware that at the same time autonomous technology development make new features and functions possible. Products will change in form and in application, often supporting a more sustainable character but not necessarily. So innovation must be focussed to support sustainability.

## *2.2 System thinking*

Our economy consists of a large number of so-called 'socio-economic (sub)systems'. That stands for the whole of all activities, products, rules and behaviour that together takes care of a need we have. Examples are health care, housing, food, transport. Such systems are mostly run by hundreds if not thousands of business activities, each separate activity organised by a company or other organisation as a product and/or service. Each individual company does not primarily act thus to make the system possible, but it acts to make a profit for its own. Nevertheless within the system they are inter-connected and interdependent from each other. A product only has value when it fulfils a function in a coherent network. That coherence has the consequence that if somewhere in the system changes occur, elsewhere in the system changes have to take place too: 'no business is an island'. Products have to change as well as business models, services and often regulations too. If such system changes are substantial, changing the set-up in some fundamental aspects, it is called a 'transition'.

The system 'transport' contains activities as production of and trade in cars, fuel, roads, maintenance, traffic laws and forms of financing and taxes to pay for everything. We know already that much will change in that system: other fuel and energy sources asking for other facilities and infrastructure of filling stations. But also the car and the way it is used change fundamentally: self driving cars, car sharing, different types of cars for inner city and for long range. For instance what will be the role of present filling stations? Basically, electric car charging will be done where the car stays some time, at home, at the office, functioning also as back-up for your electricity need at home. New business models will help customers with their daily changing need for mobility.

Housing is a rapidly changing system. Building and construction will change drastically in many aspects, for energy saving and renewability reasons, for recycling purposes but also because we will live differently in the more en more densely populated areas to make it 'liveable'. Electronics and home automation will change the way we live as well as how we look at a house as home. We are more mobile at work and we are ageing. So we want houses be able to be adapted to our changing requirements.

The system food supply consists at the one hand of agriculture, suppliers of equipment, cattle feed, fertilizer, crop protection chemicals and seeds. On the other hand it consists of the processing industry, packaging industry, trade, wholesale and retail, transportation and at the end the processors of food waste. That system, food production as a whole will change dramatically, regionally and worldwide. So will all those parts and businesses in that system!

A simple example is 'fertilizer'. Presently fertilizers are made using much energy and phosphate ores are being depleted. Alternative sources are the organic wastes from agriculture, food and sewage systems. Fertilizer use must be much more efficient, for instance with remote sensing to determine actual need for fertilizer in specific patches. It asks for new technologies, adapted farming practices, new breeds of plants, changes in our food pattern, etc.

Looking at systems, system changes and what that will mean for our products, activities and businesses, one must look at other systems too, outside one's own branch and system. Systems interlock, together they make up how we have organised our society and economy as a whole. Parts of one system are active in another one and the one system serves the other. The energy system serves housing, mobility, among others. The system by which we organise labour has impact on all other. Housing and transport have influence on health care etc. etc.

So a system analysis needs great attention and must be done thoroughly. One might miss a factor or development which could prove to be essential, a chance or a challenge, for your business.

Systems can be defined on different levels and may have different scopes. One can look at larger systems such as 'the transport sector', but one could possibly better differentiate and look specifically at the subsystem 'transport of persons by car' or the 'public transport system' (not to be confused with just the 'bus system in a town'). Different scopes exist when one looks at how the 'supply of raw materials' is organised in comparison with how the system labour is organised in a society.

One should select those systems and the required level depending on how interconnected systems are for that activity and how far reaching the changes in those systems are.

For the introduction of solar cells, the energy system is very important. Raw material supply somewhat less and but how we build houses might have an major impact.

For electronic equipment in general the major systems are raw materials (scarcity, recycling), labour (in particular outsourced) but the energy system as a whole much less, unless it changes (partially) from DC to AC.

With system thinking are you looking for answers to the following questions:

- In which systems do my products and activities play a role and how crucial is the position they have?
- What changes take place in these systems?
- What are the effects of that on the role and position of the product, service or activity?
- What impact does that have on the function? Here the questions relevant to function thinking will have to be asked again.

### *System thinking and sustainability*

Actually a system is the unit we have to consider when searching for actual sustainable improvement. Sustainability is seldom linked alone to just the single introduction of a product, activity or process alone. It is the total effect that changes in 'how we organise things' in a system have. To accomplish really something in the field many coherent steps in all different parts and products of the system have to be taken. When you want to alter and improve one part of the system to make it more sustainable, adaptation and novel actions on many other places in the system are required, and maybe in other systems too. (For an electric car you need not just to put some electrical motors and batteries in a car. The whole infrastructure has to be adapted.)



Furthermore, those improvements and adaptations at those other places together increase the impact of the system, assuming they all imply some improvement in sustainability. Together that often proves much more effective than the sustainable improvement of one element of a system.

In practice it is also nearly impossible to get a substantial sustainability improvement from one element alone (see also myth 7). But if many parts of a system have a small and achievable improvement, that can have large effects. For instance if a car weights 20% less and the engine is 20% more efficient per kg and per km, there is a total of 36%<sup>1</sup> profit. And when we have a system change that causes having to drive less, production of fuel is more sustainable (renewable) etc. The result is that this subsystem as a whole becomes not some tenths of percent more sustainable but a factor 2 to 3. And that is what sustainable development really needs.

An important aspect of systems when working on sustainability is that the above mentioned interdependency also forms a barrier to overcome. When measures and actions for better sustainability require actions by other players in the system, it complicates a strategy towards sustainable business. Certainly when substantial changes in processes, products and business models are envisaged one cannot act without the consent and the cooperation of suppliers, customers, authorities and other entrepreneurs who have to work alongside with you.

This situation, that often occurs when substantial innovations are planned, causes quite some hesitation for entrepreneurs to get into the process of fundamental innovation. It therefore takes time and asks for good strategies, strategical cooperation and stamina, of the people as well as the companies involved. That complexity is also one of the root causes of the so-called 'innovation paradox': there is much knowledge which could be used to improve products and processes and could lead to new and better economic activities; but it does not happen, or at least not as fast as one could expect or wish for.

System complexity is also a root cause for what one could call the 'sustainability paradox': we know we can achieve it, we often see that it is unavoidable too and in the end economically sensible, but it does not happen.

When assessing the system(s) a company operates in, this aspect needs to be examined too.

There is a fourth reason that system thinking is part of good sustainable strategies. Effective sustainable policies of authorities use the interconnectivity of all the varied activities and therefore enterprises in systems. Sometimes you only need to regulate a specific activity or outcome (for which one company is responsible) in a system and all other have to adapt and improve their performance too. It is not necessarily a law or a regulation; pressure by NGO's or just by the public can do the same. When we tax electrical cars less that leads to shifts in the whole transport system, and maybe further. NGO's set supermarkets under pressure through publicity campaigns to offer more food from environmentally sound production. This has consequences for the whole production chain (increasingly so in the Netherlands anyway). New limits for recycling waste lead to changes in production, product design and actually consumer behaviour.

That approach is increasingly used by authorities and NGO's. It will influence present and future business strategies even when such regulations do not concern your product or activities directly.

### 2.3 Chain thinking

All economic activities are part of a chain. They form the basic subsystems for the socio-economic systems described above. So a product is always the result of a chain of companies made of suppliers and their suppliers and so on seen from the incoming side, and customers with again their customers and so on seen from the outgoing side. For a physical product it starts with the extraction of the raw materials and ends with the final application and use. It does not stop there because nowadays the

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<sup>1</sup> The second step saves another 20% of the remaining 80%. So the total reduction is 36%

step in which a product is discarded and is processed for reuse or recycling is seen as an essential part of the product chain (a better word is cycle) too.

Also and much more obvious of course is that the steps are very interdependent. A change in one, affects the other, both later in the chain and earlier. An entrepreneur should therefore know and understand the whole chain, and network, he operates in thoroughly. Here too the function and role your product has for the further and ultimately last stages determine your business. Changes a few steps further can prove crucial for your product. In addition, changes in previous steps may occur and determine your options for your step in the chain. Sometimes you want such changes, for instance because of sustainability, and therefore impose them on suppliers as additional requirement in procurement.

Chains exist for all economic activities, for physical products as well as for services. With all the different links and steps needed to get to a product or service, running parallel and often with multiple outcomes, a chain often looks more like a network.

A kitchen mixer is designed and produced in a long production chain/network from base materials into the metal and plastic components, the electronic and mechanical parts, an electric motor and casing, stepwise and mostly by many different producers and suppliers. A safety certificate has to be issued and tests need to be done. Other companies provide paper and cardboard for the packaging. Someone creates a manual. The product is transported to a wholesaler. That distributes it to retail, a shop or increasingly to web shops. Someone buys it and uses it. After a few years the mixer is no use anymore and is discarded. For this type of equipment in the EU at least there is a whole chain which then ensures that it is processed via recycling companies to raw materials. Also here regulation and certification form links in this chain.

Such chain of interdependent links do exist too for more intangible products. Intangible products or services as physiotherapy, business advice, a radio program or financial transactions also ask for a chain/network of collaborating companies and organisations. Physical products as training equipment, computers, buildings and transmitters are needed to realise these intangible products. Chains for intangible products are more difficult to describe and analyse but they are as essential as the more easily recognizable physical product chains. A radio program needs an organisation that writes the program and puts it in the air, equipment, sufficient listeners (or it stops), an orchestra with music instruments. These instruments, for their part, need to be created and maintained. In addition are needed someone who writes music and a publisher. And all those physical products that are needed to make such intangible products and services possible have their own product chains.

With chain thinking you are looking for answers to the following questions:

- Who are my customers, direct and further in the chain?  
And what do they use my product for? (These are the answers from function thinking.)
- What changes do they introduce? Which questions, developments and discussions are taken place in that chain of customers, for instance due to sustainability issues and new constraints?
- Is there competition possible from new and quite different actors through another product? (As example electrical cars which will compete with the products oil companies supply.)
- Who are all of my suppliers, both my direct suppliers and their suppliers?
- What changes do occur? Which questions, developments and discussions are taken place in that supply chain, for instance due to sustainability issues and new constraints?
- How should and can I respond with my activities, product design etc.?

As said before in system thinking: systems and subsystems are always interconnected through specific products and services that need input, such as energy, components etc. produced in other systems. So when assessing a chain of the simplest subsystem, one should be aware that this chain is connected with other chains, networks and subsystems. This asks for good and clear assessments with a sufficient broad scope.

### *Chain thinking and sustainability*

Sustainability issues are becoming the prime mover for changes in products, activities and therefore (sub)systems. Many companies are introducing changes or are contemplating these. It leads to new products, altered products and sometimes products will have no place anymore in the new systems or cannot be made anymore. And each of those companies are a part, a link, in a production chain.

When products or activities become obsolete, wherever they are situated in a chain, that chain and all steps in it become obsolete too, or at least require fundamental adaptation.

When products or activities are changed, all steps must change. And when new products and activities are asked for, new opportunities arise for companies to take place in the new chain.

Important chain issues are sustainable supply of materials and the people aspect in production chains.

Scarcity of materials and the measures to cope with that is felt through the entire chain. Designs must be adapted. Materials must be replaced with alternatives. Reuse and recycling become essential. The discarding phase was already a subject of much environmental regulations but is now also subject of sustainability oriented regulations and of great economic importance with implications for the design, business models and customers. There are therefore also many opportunities. You can provide maintenance and design the products so that reuse of components and remanufacturing is easier and ensure that scarce materials for your production become more easily available. See the concept description for 'circular economy' in Appendix 1.

Certification of products ('fair trade', 'social acceptable production', 'sustainable produced', 'animal friendly' etc.), as more and more customers ask and hence retail increasingly offers, leads to requirements that permeate the whole chain. All suppliers, from the start, have to work with new protocols and certifications to make sure that a producer is not liable for unsustainable, antisocial and unethical practices earlier in the chain. In due course it also leads to a new set-up of production chains and outsourcing, new production practices, automation and totally new designs of products that do not need to be made under antisocial conditions.

## *2.4 Value thinking*

A customer always selects value for money. What she or he considers to be the value is a rather complex matter. What is the satisfaction a product or service gives and evokes a pleasant feeling? Of course that is when the product complies with an explicit intent: the primary function it is made for: the paint must protect, the car must drive and the advice must be helpful. Nevertheless, many, if not all products have an additional value due to an additional function: paint is also to decorate, a car to show off and show status and an advice to show that you are not alone in an opinion or force others to accept what 'you already know is right'.

Products quite often have values and functions other than initially seemed intended and which are not directly clear and sometimes remain unidentified. Changing a product might then work for the intended function but prove detrimental for these other values. Careful analysis is then needed. Furthermore, changes take place in the values people or specific groups of people cherish, which will affect the feelings they have for specific products. Quite likely new, extra, feelings and values arise that get attached to products or ask for new products or new forms of products.

### *Value thinking and sustainability*

Sustainability is certainly a value users, consumers or business, ask from products. If put as an unemphasized question only a small percentage of the people and companies will answer that they buy something because it is sustainable or is produced in a sustainable manner. That makes entrepreneurs and manufacturers often reluctant to make sustainability an issue when dealing with

consumers and other businesses. Nevertheless it still appears to be an unspoken motive when one looks at the choices that buyers make, some studies have shown.

Obviously in business to business (B2B) sales more and more companies are profiling themselves as sustainable for whatever reason and look for a form of certification. They then require suppliers to be sufficiently sustainable, and certified, too, because their certificate depends on that. Public and governmental organisations have often voted to encourage sustainability for instance through 'sustainable procurement'. There is an apparent multiplier in that sustainable behaviour of entrepreneurs: a few can start a whole cascade of others to go along.

Only a few percent of consumers explicitly ask for sustainable products. And when they do, it is mostly for organically grown foods and fair trade products. Nevertheless sustainability certainly plays a broader role. People do acknowledge negative feelings that have become attached to products for instance through negative framing due to pressure groups, word of mouth (and the internet!) and reports on 'bad practices' in the papers. The reports on social malpractice in textile factories in Asia, and in particular the disastrous factory fires which left many dead, has sped up the discussions about better labour and social conditions there. A company that shows that it takes this seriously has an advantage that can be decisive in this very competitive market.

A factor in general is that companies that show their 'positive approach towards sustainability' in their advertising, at the same time darken the reputation of those that do not do that. Advertising and promoting products is based on evoking emotions. For instance the cuteness of animals such as seals, pandas and chickens is used to preserve nature and for better living conditions for animals. Due to such broadly accepted emotions, it gives a positive 'status' when people mention eating less meat and if so buying it only from the organic farming. Such sentiment form a not always acknowledged hidden controller of our decisions. But in fact most people do not buy a specific item because it is the cheapest fit with the primary function it has to fulfil for them. They buy what gives them the best feeling, in which all types of aspects play a role, price, fashion, status, belonging but more and more also sustainability.

### 3 Elements for a future viable business strategy

As outlined before sustainability is in essence a simple principle: striving for a society and economy which can be sustained, also in the long run. Nevertheless translating that simple principle into concrete actions and measures is pretty tricky. Perfect solutions which are to the liking of everyone, are not available. Furthermore, the economy is a complex system, as discussed above. Simple measures do not exist.

Nevertheless, the awareness that we need a society and economy that can be sustained is already one of the most important engines of development in all economic, politic and scientific fields. That is most visible in the multitude of technological innovations aimed at making production processes and products more sustainable and the increasing growth in products and services we need to act more sustainable.

There is no question that companies have to take sustainability as a starting point and precondition for all their decisions. As yet they still too often focus on the short term and too easily concur with opinion leaders who find sustainability unnecessary or something for the future. They feel it as a threat and do not want to venture into what is for them uncharted area. But that is where the profit will be.

One will need to chart the future of a business and the future of those parts of society and the economy in which the business has its role in some detail.

#### 3.1 People, Planet & Profit/Value

In order to keep up with what customers, society and the economy want, you should be ahead of them. You have to look further than your customers. That 'further' covers a wide and ever increasing area. As said before an entrepreneur should pay attention to technical developments, developments in society and economy, changing customer attitudes and desires, changing opinions about value and what people accept or not. In order to emphasize that broad area one should pay attention to, often the metaphor 'People, Planet & Profit' is used for sustainability: the 3 P's.

It is a metaphor for the broad issues that have to be paid attention to. It is not a magical formula. There are issues and aspects that cannot easily be put in one of those labels. Other issues and aspects actually fall under two or all three of the labels. There is discussion about the right names for the labels and if there should not be more (see myth 7).

'Profit' (or 'Prosperity') should not be seen simply as financial profit or income. It is much wider and relates to the 'value' that an activity or product has for different stakeholders. Part of it will indeed be profit and income. But for some it implies also health, pleasure and not uncommonly 'status'. For society it can be the possibility to address a social problem or a basis for healthy economic development. The 'Value' aspect of sustainability in specific cases is often a combination of these aspects.

Sometimes 'Pleasure' is mentioned as the fourth aspect. Then the metaphor is changed to 'the 4 P's'. In fact, 'Pleasure' is a logical aspect of the 'Value' something has and does not necessarily to be stressed separately.

Actually, to be successful, 'pleasure' should to some extent be part of any action or measure leading to more sustainability. That is to say: (very) unpleasant measures and developments are often not very successful unless the alternative is even worse. But unpleasant measures will be difficult to introduce nevertheless.

Your business, measures and innovations are only really and effectively sustainable and socially responsible if all relevant issues for the specific case, in all three areas of the metaphor, have been taken care off and adequately dealt with. Issues that are missed or treated insufficiently, will eventually cause problems and annihilate the good things you have done.

You can view the set of relevant issues as a chain. That is only as strong as the weakest link. You could reason that, to show your good intentions, it is sufficient to address only some obvious and highly visible, often hyped issues. The outside world will applaud you for the good work you do. But the less visible weak links in your 'sustainability project' will undermine the result as a whole.

An example: many companies are involved in reducing energy use and moving towards renewable resources in their own production plants. But the instability in their supply lines, where resources become scarce or socially unacceptable conditions are the reality, gets much less attention because it is more difficult to handle. But if that leads to decreased supply and public outcry, the fact that you use renewable energy will not exonerate you from the responsibility for those other issues.

### 3.2 Hamburger model

A simple model can explain how sustainability acts on the daily present and future activities of a business, on its strategy, choice of innovations and in the end its future viability.

We have called it the 'Hamburger model', see Figure 1.

In the middle is the product or service that your company provides. It is wedged between a number of layers with preconditions. The different layers make that it resembles a hamburger. As with a burger, the right flavour (sustainability) depends also on what it is between of.

The ability to produce and deliver a product or service is determined by two main sets of boundary conditions:

- on top: the right answer for what customers and society want;
- underlying: the capabilities to produce and deliver.

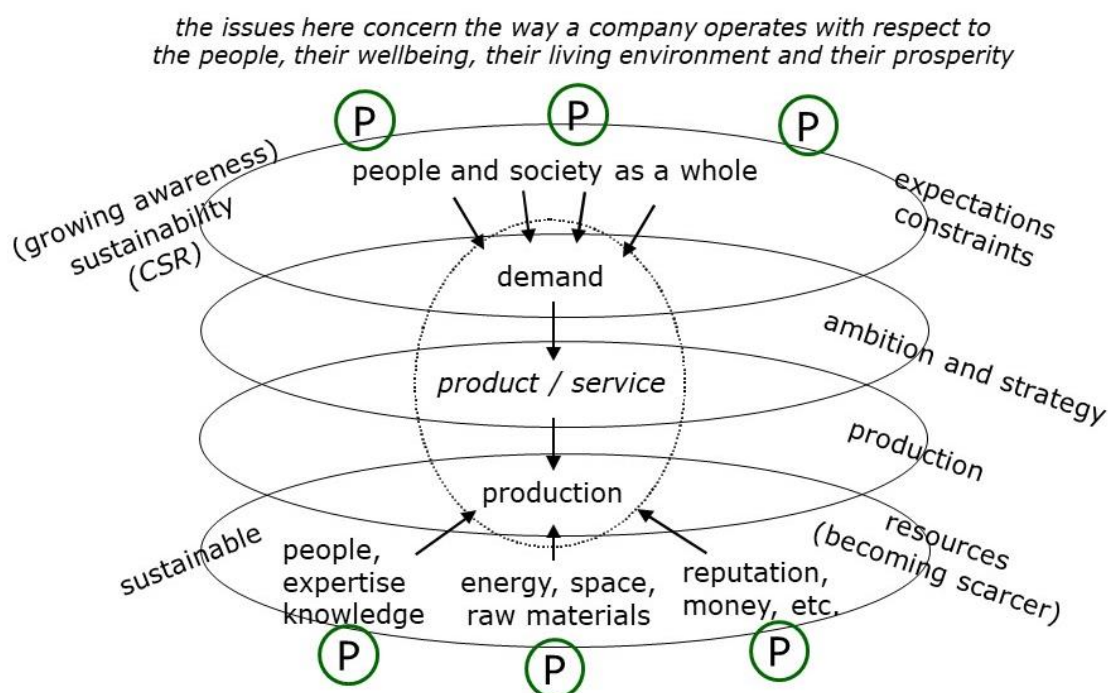


Figure 1. Hamburger model: sustainable framework conditions for entrepreneurship



Entrepreneurship is partly ambition, partly strategy and partly practical business planning. To do that properly, the issues 'on top' and the 'underlying' issues have to be clear: what are they, how do they develop, what is the best manner for me to handle them? Function, value, chain and system thinking are essential. That ambition, strategy and business plan should fit in the economy and should be in line with what people think and want. For that the right treatment of several aspects and issues is crucial.

### *3.3 Future*

Adapting your activities to what people and the economy actually want, is not just necessary for the present. Even when taking decisions for the present situation, one should anticipate on future situations and requirements. As said before: 'today is tomorrows yesterday'.

Investments and new products you make decisions based on the present situation nevertheless also determine what your business will look like in the future and on which markets you will operate. Companies too often take decisions thinking that they can easily change course in the future. But choices made now with the present preconditions in mind, will nonetheless in most cases form the basis for what you do and decide next: on which market you are and will stay active, the knowledge you build up, relationships with other companies in the chain. If that is no longer useful in the future because the systems in which you operate change radically, changes are not so easy and require new and sometimes large investments. That would have been unnecessary if more future-proof choices had been made. The next chapter will focus specifically on 'determining future conditions'.

### *3.4 Implicit expectations and constraints*

Customers, consumers and companies alike, often have expectations that are not explicitly stated: they sometimes have implicit expectations which they themselves are to some extent unaware of until the product or service is delivered or used. And awareness of such implicit aspects may take some time. Then there arises an uneasy feeling that it should be different or that it is not 'quite is what one expects'. That can be the end of a customer relationship. We all too often think that every decision is rational, especially for companies, but that is not the case. Feelings, subjective criteria can be quite decisive. Such feelings and criteria change continuously, for instance influenced by social developments. (see also section 2.4, 'Value thinking'). And in the end, some of those feelings, regarding the social context of products and production, can end up in legislation if we as a society want something or find that something is no longer acceptable. As a company you are wise to anticipate on that. Conversely, you can speed up such development by offering a good alternative on the market.

### *3.5 Availability of resources*

Whether it is practical and feasible to deliver a product or a service, is subject to the availability of the necessary resources such as raw materials. All resources are to some extent limited. For most those shortages lay in the future but for some, and particularly strategic ones, that is nearing already. Such shortage of necessary resources is a major challenge of sustainability for any company.

Investing without thinking of future developments might lead to major drawbacks in the long term. As said before, the future is tomorrow and the speed of developments is often faster than expected. Production facilities, distribution channels, training of people, acquiring land and financing structures are intended to last for a reasonable period. You can't just switch from the one to the other. Your products and machines are designed with specific materials in mind. Once those get scarce, and

expensive, they are not exchanged that easily. A new market structure is also not adapted that easily. And new financing or trust or acceptance in society is not found that easily either.

Shortages do not just concern the physical resources but also the other areas, related to the people and profit/value aspects. This concerns for example the availability of people with the right expertise, available financing options due to the structure and culture of the financial system, and the willingness of people to accept your activities (or oppose them, for example NIMBY problems concerning windmills).

Shortages can occur due to demand, such as for financing or trained people, or for physical resources such as water and arable land for biomass production for which many more uses exist. They can occur due to actual scarcity such as the physical availability on earth for specific minerals.

Also when evaluating your options and the feasibility to operate and to produce all relevant issues, with attention to a range of focus areas, as we have seen in the metaphor People, Planet & Profit/Value, have to be taken very seriously.

### 3.6 Reputation

The reputation of a company and that of the entrepreneur her/himself is a major business and market issue. There are many obvious issues a company does not want to be associated with. The number of such issues grows and so does the economic impact. The obvious ones are social and moral abuses, as mistreatment of labourers, corruption, and environmental crimes as illegal dumps, spills, nuisance and the like. Newer ones are the financial behaviour of a company, outrageous bonuses, outsourcing and temporary contracts, race issues and discrimination. What is abusive or even illegal is a continuously changing measure. What is now accepted or tolerated could raise eyebrows tomorrow and be illegal in due course. Such new abuse awareness starts with an action group asking for attention for a specific issue, leads to actions and might ask for legislation to show what society finds acceptable.

Employees, stakeholders nor shareholders want a company to have a bad reputation, if they agree with certain issues or not. Reputation eventually determines if customers, financiers and other partners in the chain see you as a reliable partner to continue to work with and for. Be seen as reliable and even desirable is an essential production and market factor too.

A company must be critically aware of what people find acceptable and reasonable, and in the end what society finds acceptable and reasonable. Not your opinion counts but theirs. And these opinions are continuously changing. Not acting according such new insights might prove detrimental for a business.

On the other hand: explicitly proclaiming that you care for good societal behaviour, obliged by law or not, supports your reputation which might prove to be good for business too. Read more about this in Chapter 5.



## 4 The strategic approach

### 4.1 Innovation needs a focus

It cannot be emphasized enough that in order to prepare an enterprise for now and for later the design of a strategy needs a scope much wider and further then often is done. It requires specific instruments and actions to do so.

#### *Back casting*

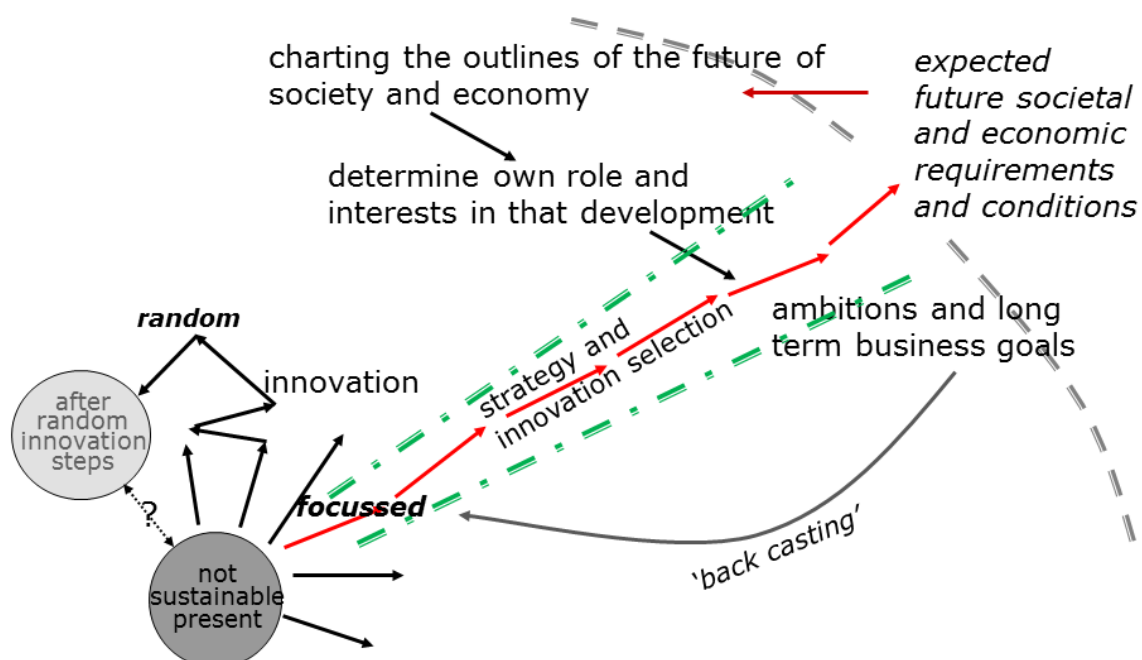
To continue to exist as a company one has to respond effectively to future changes to the systems and chains in which the company operates. These are changing because of several developments, of which sustainability is a major one. Sustainability particularly changes the way companies operate and the function and value products have.

Back casting means assessing and defining what you need to do on the basis of a view on and an understanding of the future situation a company and its products will have to function in and how the company wants to function in it (Quist, 2007). It is the crucial first step in the formation of a sustainable strategy.

It is the opposite of forecasting, where the present situation and assessment of what has happened up until now are seen as the basis for how to proceed further. The future is seen as a vague 'maybe sometime' which will be taken care of 'when we get there'.

A good picture of what is coming based on a thorough and sophisticated assessment of all relevant and changing issues, is more useful than a projection of what might happen based on present system conditions. Back casting is the only means to prepare for a well-adapted and profitable business in a changing economy and society.

Figure 2 shows the back casting process.



**Figure 2. Innovation with a focus using 'back casting'**

Bottom left is how 'unfocussed investment and innovation' works. Based on the present conditions of the business a decision is made to invest and innovate, in a product, the process, the market

approach or whatever. Sometime later the then prevailing conditions are the basis for a next investment and innovation and again and again.

Through the successive steps the business changes. Even if the separate decisions might be quite sensible for the short timespan, they do not necessarily add to a good starting position for a viable business future. Looking back at those steps and where it brought the company, the decisions appear random. The direction of the decisions changes too much, due to a short-sighted focus on the here and now of the business. To survive it might seem alright but there is often no planned and prudent development to discern. So the question then is whether the company has become strategically viable to answer to address future challenges.

A more rational approach is to be aware that, when innovation and investment decisions have to be made, there are quite likely a number of choices. The best choice would then be the one that is not just advantageous for that moment but at the same time offers future opportunities. That is not necessarily a viable option for the future in itself, but at least it forms a good step towards a viable and desirable future condition for the company. So don't just look at what is now convenient and profitable on the short term. Take considerations for the future company into account too. Innovations and investments need to be in accordance with and focussed on future social and economic conditions, the changed systems.

In chapter 2 we described the necessary perspectives with one should assess businesses and their products and services. In chapter 3 the elements that form a sustainable strategy have been discussed. That can only be done effectively and sensibly with sufficient insight in what the future conditions might be, in the upper-right corner of figure 2. That forms the focus of innovations and investments.

These future conditions are formed by how society and economy will adapt and change and how sustainable issues and system transitions will develop. Questions to be asked and answered are:

- Which are the major trends and transitions in how society and economy will organise the manner in which will be provided in the different needs we have?
- What will be the role of your company, product, activity, and how will that change?
- How will wants, values and perspectives of your customer change?
- What will the effect on the behaviour of your customers and suppliers?

That will determine a company's possibilities and opportunities.

But important too is that such future conditions are also determined by the private ambitions and capabilities of the company and the entrepreneur. There are always more choices possible.

These conditions form the basis of the future a company has to adapt to. To prepare for that future a strategy is required, with a development path and priorities which determine how and when you are going to innovate and invest.

### ***Determining future conditions***

*'Predicting is difficult, certainly when it concerns the future'*

*Niels Bohr, physicist*

Although predicting is difficult, stumbling around in the dark is not really an option when a company plans to innovate and invest. This booklet is not the place to describe models and methods that can help find answers for that. There is a whole science of futurology, science assessment, scenario development etc. There is literature and a growing number of publications on what future developments are expected in the various areas of society and economy.

Common sense is asked for. The many ideas and options require critical but unbiased and certainly not just ideological-driven thinking<sup>2</sup>. There certainly isn't a shortage of ideas and knowledge on current and future developments regarding technology, social and economic structures and wants and the mind-set of people, customers and other stakeholders. The challenge is to get a good and sensible inventory and overview. And subsequently a good assessment of what is relevant for a particular product or company as a whole, and of what that implies in practice and for the conditions a company will find itself in in the future.

It is not so much the scientific literature one should look at. That literature describes new, technological developments but those developments do not necessarily lead to actual innovations or changed systems. Many other factors are involved. More relevant literature might be the publications of industry organisations, the mainstream newspapers and magazines that show new trends and developments, when read well. Nevertheless one should always be wary about expectations and claims that seem too farfetched (although history shows that sometimes seemingly unlikely developments do happen) or based too much on a hype and wishful thinking. For example, the claim that biobased production and energy will be the basis of the future has already been challenged because of the many drawbacks that an extensive use of available bio-resources has.

### *Selection of strategic relevant and essential options: the Fociss methodology*

The research group sustainable operations of Avans University of applied sciences has over the years developed a method that can be an aid, allowing a company to structure and make an inventory of the issues that are important for a good vision on the future: the Fociss methodology (Venselaar et al., 2007; 2010).

The main outline of the method is given here. More information: see the 'Literature' section.

The basic philosophy behind it is:

- Often quite some knowledge and ideas concerning the issues that will determine the future place and activities of the company already exist within the company.
- Function, system, chain and value thinking are essential and all participants are urged to give answers to questions concerning these aspects.
- An inventory of these answers is made. This inventory should be as complete as possible, using a structured matrix 'forcing' the participants to assess all possible issues and aspects.
- The inventory should be made unbiased, possibly with the addition of external experts and well informed stakeholders.
- A selection is made, step by step, through discussion and comparing the impact of the issues.

Main steps of the Fociss methodology:

1. Defining the product, service or activity for which you want to develop a sustainable business strategy. One strategy, with specific details, can never be the same for different products or activities. 'One size fits all' does not exist in business strategies!
2. Defining the different steps and companies involved in the production and total product and value chain, from raw materials to disposal (preferably recycling and reuse).
3. Assessing the role and place that product or service has in an economic system/niche; the primary but also the hidden and implicit values the product or service has for a customer.
4. Defining the (sub)systems that are involved, because the product has a role in them and/or they play a part in the production chain or in the use of the product.

*This is a difficult step, because it is complicated to determine relevant systems. The main one, in*

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<sup>2</sup> Visions and ideals are never wrong of course but should never be a blockade for sound and rational analysis.

*which the product plays a role, is usually obvious. The systems that are otherwise involved and might be crucial, are less obvious sometimes. Products and production need energy. When you use biobased resources you get involved in the food/agricultural/forestry systems. When you use labour (and who does not) the system of how we organise work is involved. Further: the financial system, the supply of raw materials, etc. One should prioritize and select. Not all systems that can be linked to your product and activities are essential. Furthermore, it is often necessary to narrow down into (sub)subsystems.*

5. Assessing the major and general developments, trends, changes and factors that are visible in the (sub)systems defined in the step before, specifically of course those that can influence sustainability. *(You might discover that many more ‘general developments’ or trends influence your activities than would appear at first glance.)*
6. Mapping the specific factors, issues and aspects within these ‘general trends’ that might specifically target your product, service, activity, production or company as a whole. This has to be assessed for the whole chain, each step separately, with its consequences for the steps before and after.  
*The methodology has a matrix questionnaire that can be used in interviews with the staff of the company and with external experts. It offers a structured format to ascertain that no relevant questions or issues are overlooked.*
7. Prioritization of the collected and described issues using the insights of the own staff and preferably that of stakeholders and independent experts.  
*One should select the various priority criteria that are relevant for the company to develop and plan a strategic approach, such as urgency, possible impact, time required for development and implementation and the company’s own ambitions.*
8. There are always different options to address the priority issues. So again a selection must be made to come to the best steps and innovations that must be part of the strategy.

This study should be repeated every few years to account for new developments and insights.

*For details, further elaboration and clarification, and for some examples, see the documents on <https://www.avans.nl/onderzoek/projecten/detail/fociss> and the papers (Venselaar et al 2007, 2010).*

The Fociss approach is originally developed to help business consultants guide a company through a process towards sustainability. The framework and the mode of thinking can also be used by entrepreneurs themselves.

This particular framework for looking at and assessing sustainability is also basis for the manner in which sustainable business awareness is introduced in management courses at Avans.

The method is just an ‘aid’, an ‘instrument’ to structure the inventory, to stimulate creative thinking, and to make sure important aspects are not overlooked. The method does not provide answers automatically. The people have to add the critical and creative thinking.

The sequence of steps is crucial. Jumping some steps, because one assumes that the answers and outcomes are already clear, means risking that the end result is incomplete and maybe faulty. One can get stuck with the easily identifiable issues only; the issues that are already getting much attention at that moment; the hypes and their misunderstandings.

A particular aspect of the Fociss method is the strong and decisive involvement of the own staff of the company, and involved stakeholders. This is very practical. These people are easily available and often prove to be rather well informed. That knowledge is mostly not yet exploited. Just as important is the fact that the strong involvement of the staff makes it their decision, choices and priorities. The decision fits their ideas and ambitions too. All too often do nice and well thought out reports and recommendations of external consultants stay hidden somewhere in a drawer, due to disinterest from the staff and resistance against outside meddling.

### *Priority in treating system levels*

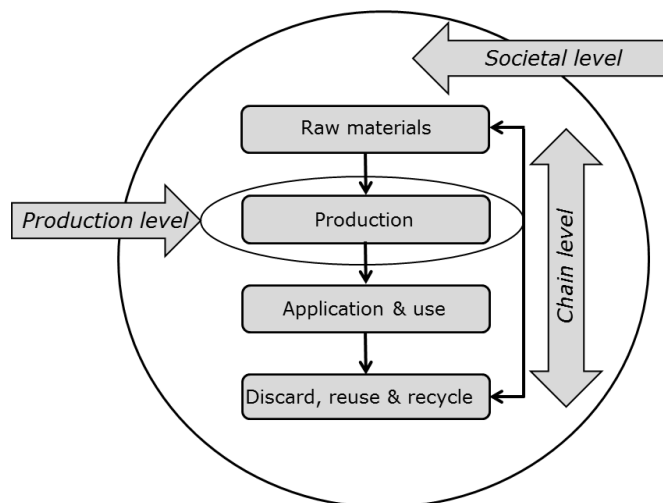
System changes are the essence of sustainable development and therefore of sustainable business strategies. Changes occur on different system levels and it is peremptory that one is aware which changes occur on which level. It is then essential to look for and react on changes starting at the highest level and then at a lower one.

Figure 3 shows the three system levels in which companies find themselves when producing and selling products and how they fit together. Sometimes a division in four levels is possible. And/or the levels are not so clearly separated. Important is that one realises that systems come in sorts and levels and that one categorises issues and consequences accordingly.

The societal level concerns the whole complex world around us: the socio-economic systems and subsystems of which our economy is made, such as energy supply, transportation, housing, health care etc.

The chain level is the network of suppliers and buyers, from raw material to the discarding/reuse phase, on which businesses directly rely for running their activities.

The production (facility) level concerns the own activities, the production units, facilities and activities, not necessarily but commonly confined to one physical and confined location.



**Figure 3. System levels in sustainable business**

Changes on the highest level, the socio-economic systems, will have the largest impact on a company. It touches the core business, the products and the place and function those products have. Furthermore, it might change the way other companies in the product chain will have to operate, which will have consequences for the company too.

Sustainable transitions in mobility, energy, housing and resource supply lead to new technologies, new products, new features and requirements, new cooperation and a new organisation of economic activities. Much of that can be relevant for a company and asks for essential changes. Getting a good view on this is the first step. Other changes and adaptations must follow.

Chain system assessment looks for changes in how your suppliers and customers react, partly due to higher system changes. It will have consequences for the way you produce, for the type of products and activities, and for the way you sell them. It could be the end of a product, but it could also be an opportunity for new products.

Only when the consequences due to changes on the higher levels are clear, the consequences for the mode of production can be assessed. Also actual implementation of 'production level' requirements, such as environmental protection, labour conditions, energy saving etc. will be influenced when production has to be adapted due to those higher level changes. So good intentioned on beforehand taken measures and investments can be wasted when production operations have to change.

Many companies are still focussing their sustainability activities on the production level only. They are still on sustainable business maturity level 0 or 1, as described in the introduction. They seem to be active on the subject of sustainability but miss essential system changes and transitions which can determine the future of their business. Actually, they are wasting their time and their money. When they fail, sustainability will be blamed, because 'it has cost so much'.

### *Strategic interdisciplinarity*

A good and effective sustainable business strategy requires interdisciplinarity. Innovation is often seen as something that takes place in the laboratory: developing novel technological solutions using new scientific insights. It is left to the engineers and the more practical oriented experts to come up with a product, how to produce it and how to use it. Then the business people take over, develop a business plan and sell the product, in one way or the other, earn money for the company and make the shareholders happy.

Fortunately, the scientific and engineering communities are inspired by and respond more and more to the needs for sustainability. Content in technical magazines relate for more than 80%, at least, to issues concerning some aspect of sustainability. Scientific magazines cover more fundamental subjects, but directly or indirectly much of their content concerns sustainability too.

So one would expect that all those sustainable solutions then end up in the companies and that sustainable transitions occur more or less automatically. This is clearly not the case. Some do occur, particularly to some extent in energy and transport, but in many fields a multitude of solutions does exist but is not or hardly used. So there is more to it.

When searching for 'disruptive technologies', which can be game changers, can start system transitions, and can therefore be a profitable new direction, one should analyse the necessary interaction of the various disciplines and let different departments of a company cooperate. Interdisciplinarity is the key. This booklet is not the place to go into all aspects and details. But when gearing up for developing sustainable strategies the following issues require attention too.

Technological development (by developers/engineers) and business case development (by entrepreneurs/managers) need to be better connected. More working together, better communication and better understanding of each other's needs and possibilities (and constraints) are needed. Marketers should know what the customers really need and what their implicit needs and values are. That has to be part of the design process. Developers should know what the consequences are of specific choices, for the purchase of materials for instance. Do we really need those scarce materials or child-labour-made parts? Or could a simple technical solution make that unnecessary?

Such interdisciplinary issues presently evolve in particular in the field of circular economy. The problems of product design, form of the business case, reuse and remanufacturing after retrieving products need to be solved working together; everyone's expertise is needed. Otherwise there will quite likely not be an economically viable solution to it.

That requires sufficient business thinking and understanding from the engineers, and understanding about technology from the management and economic staff. That appears to be missing sometimes.



There is a phenomenon in technology development called the ‘innovation paradox’. It means that there is much knowledge regarding possible development of technology, products and better processes, that is not used at all or only very hesitantly. Actually it exists also in other fields of science than the exact sciences and technology, but in this treatise we concentrate on the latter.

The result is that much needed improvement of products and processes, and therefore sustainable transitions do not occur or only much impaired. The reasons are manifold due to uncertainties about the market response, risk avoidance (it works fine now, but what happens when we change it), fear about social response (as with gentech, nano), sometimes justified, and uncertainty about actual sustainability, as with biobased energy developments. Financial factors exist as well, such as the fact that existing installations are often depreciated already and therefore form a cheap production factor. New equipment, even when it is much more efficient and less energy and material consuming, starts with a much higher cost. But of course the costs for new technology decrease in time. Those who wait too long, cannot compete with much more efficient installations.

### *Phased introduction*

Becoming a sustainable business in essence always asks for many adaptations and innovations in the various activities and departments of a business. One concerted action, a jump to reach the desired state, is not possible, unless the business was already nearly there or it was a very simple business.

A strategy must therefore contain a program, a stepwise plan for implementation of the necessary actions. There are several reasons which for each individual company and each separate action have a different influence and importance and lead to a priorities scheme.

Technology development is often a crucial factor. Completely new technology solutions might be needed and already existing. But the introduction of new technology requires time, even when the technology is already thoroughly tested. And when the technology has not even left the laboratory, maybe 10 years or more are needed. One should start with existing technology serving the aims to some extent and for some aspects. At the same time, this should pave the way create conditions in which the better future technology can be introduced. And maybe three or more steps could be asked for. This is indicated with the compounded arrow to the ‘future conditions’ in figure 2.

System changes are not very fast either. The higher the level, the slower is the pace. Changes on your own production level can be complicated but is in your own hands, mostly. Changes in the chain require the involvement and cooperation of other actors in that chain, and certainly of the customers who feel the need for or have to accept the adaptations. Socio-economic systems commonly change slowly. So timing depends on the level on which the actions you intend to take, take place. As in technology development, adaptation and innovation introduction have to be done stepwise.

Further aspects, as financing investments, training of staff, preventing too much disruption of the business etc., will influence the pace of introduction of changes. You cannot do all at the same time. However, the various sustainability issues are not always equally urgent. That offers the possibility to phase measures. One could then consider for instance to make the changes when new investments were already planned, for instance for maintenance, at the end of a depreciation period, etc.

A clear example of stepwise introduction, due to technology development as well as system change, is the introduction of the electrical car. Batteries are as yet insufficient, there is insufficient charging infrastructure and costs are high. So the trend is to start with hybrid cars that you can charge at home, and introducing them for niches where the constraints play a smaller role. Current car design already involves much more electronic control than before. A lot of companies in the whole system and in the chain are positioning itself to be ready when some breakthrough happens. Car manufacturers themselves of course have to be ready for that, but also all suppliers of parts and services, large and small.

In clothing manufacturing, aiming for less waste, more sustainable production overall, and more custom made products, are things that are happening. The same changes can be seen in food production, energy supply (more decentralized), housing and building.

Any company that is now insufficiently alert to changes, due to the need for sustainability, will quite likely be too late.

Nevertheless, there are also considerations to accelerate sustainability measures, such as the wish to strengthen a responsible business reputation, the own ambition and being able to address an already existing preference for sustainability in particular segments of the market.

Doing that might actually strengthen your position. When sustainable products or services are offered it can speed up the development and acceptance of such products. Demand is created where many did not see it.

An example of speeding up sustainable demand is the faster than foreseen introduction of very energy efficient LED bulbs. It created a breakthrough in demand and use where the experts, active in the older type of lighting, did not yet expect it. This is visible too in the examples of hybrid and electrical cars, biobased and degradable packaging, organically grown foods etc.

### *Strategies are unique out of necessity*

It has been said before, but it cannot be stressed sufficiently: it is crucial to determine the specific conditions your product, your enterprise and your situation asks for. It leads to specific issues, priorities and therefore unique solutions. A strategy has to be made for one enterprise and entrepreneur, taking also her/his ambitions, views and specific expertise and wants into account.

Standard approaches based on general principles and sustainability philosophies will not suffice in the end. They form an inspiration and can only contribute options. Just don't copy an approach that seems fine somewhere else. See also myths 7 and 9.

## *4.2 Business models*

A viable sustainable business implies a healthy financial basis. The core of such healthy businesses is the manner in which you earn an income with your product or activity.

"A business case in the new economy focusses primarily on generating income, not on reducing costs. An entrepreneur should look continuously for options to transform an expense into an extra chance for business. Thus they extend the viability of their business case" (Hoek, 2013).

As long as enterprises exist, so actually as long as humans exist, clever and creative ideas for business models have been developed. So there is a lot to learn from. When we say there is need to find new sustainable business models, it means one should pick the right one that fits your sustainable strategy best. Ultimately, the aim is to find suitable business models that not only work well under the new conditions, but also support and strengthen your strategy for sustainable development.

To determine which is the best sustainable business model there is no formula. It depends on which sustainability aspects are essential for a company and how those can be optimally used for attaining real sustainability, for the company as well as for the society and economy.

In general, the fact that products and services fulfil a specific function, and often add value, for a customer who does not want the burden often connected with it, fuels business concepts involving lease and PPS (product service systems) constructions. You take the burden from the customer and at the same time this has much more options to control the environmental burden of your product better.

When pressures pertaining to resources is an important sustainability aspect, a model that offers an advantage to all parties is a model where the price of that commodity is as small as possible.



Maintenance, reuse etc. are then for instance parts of a business model which spreads out the initial environmental effect and costs over a period that is as long as possible.

Effective resource use reduction asks for combined strategies in which the right business models play an essential role.

- A first step is always to choose designs using fewer materials and/or less scarce materials.
- Secondly you could supply the wanted function in another manner, asking for less equipment and materials, requiring fewer operational activities and less energy. This is for instance a trend in supplying heat, light and comfortable living conditions in general in housing design.
- Leasing a product to a customer who then only pays for the use and/or specific results (photocopies, kilometres driven). The equipment is still yours and you can take it back and exchange it for new/better equipment and use the old product for reuse and remanufacturing.
- Ultimately the materials used have to be reused as much as possible. Then the major issue is getting the products back after they have been used and as much as possible in a 'reusability fit mode'. Here sustainable business models have to be thought off that make 'taking back' easy and attractive for the customers too. You need their cooperation. Leasing and PSS are options, but so are return deposit money systems, rebate when buying new products and bringing the old product back, easy collecting systems, and cooperation with garbage collecting companies. All depends on the type of product and how advanced present collecting systems are already.
- So products have also to be designed so that they are totally apt for the chosen business model, for reusability, easy maintenance, lease etc.

A common feature of sustainable business models is also the use of the 'additional value' a product or service can have. It might attract customers and make them willing to pay more for a product or service, in the case sustainability leads to a higher price of it. See section 2.4, 'Value thinking'.

Examples of using implicit added value:

- People can get a share in the store and then get a rebate price for products. Stores for organically grown food and small bookstores do this. It is a kind of crowd funding, in which customers are involved and contribute to the financing.
- People can be asked for a contribution on base of their appreciation for the product, instead of a fixed price as some restaurants and consultants do.
- When offering local products, visualise the producers as 'your customers neighbours'. Organise visits to the producers and when it concerns food, help your customers with advice and recipes for tasty, varied and easy meals.
- Libraries but also bookshops, who are struggling because of budget cuts and the growing number of e-books, get more focused on transfer of knowledge and culture. So they offer space for work and study, a coffee counter, a place where people meet and organise volunteer work to help people understand that knowledge.

What matters is that you choose a construction that is attractive to a large enough group of people and offers some binding element for customers. That sounds obvious. However too often 'sustainable looking' business models are attractive for only a few, the in-crowd, based on impulses and hypes. Those business models are not actually 'sustainable' and often only short-lived. There is ample literature, so select better ones. See the 'References and Literature' section.

### 4.3 Sustainable marketing

Sustainable marketing is in essence no different from 'normal' marketing. However, new criteria do apply because systems in which companies operate are changing, not only in how they are organised, but also in how value creation within those systems will occur and will be assessed.

Marketing is directly linked with the enterprise strategy and its business model, it must 'tell the story of the enterprise'. Sustainable marketing therefore plays a role on two levels in the enterprise:

1. corporate strategy level
2. market strategy level

### *Level 1: corporate strategy level*

Sustainability means in essence continuity, future viability due to the right strategy and action in response to new demands and challenges. For the marketing function of sustainability, this implies a crucial shift. Sustainability was often seen 'only' as 'a means to competitive advantage', but it has become 'an absolute precondition' to become that future viability oriented company. It requires a shift from short term to long term focus.

Marketing operates in the interface between the company and its surroundings. Marketing has an essential role in being the 'radar station' of a company. Marketeers must have their feelers, their antennas, stretched out from the company into those surroundings and keep an eye on all the trends and developments that (might) have an impact on the performance of the enterprise. It is their task to translate that information into new corporate visions and ultimately new products, services and business approaches.

The challenge for marketeers in this respect is massive. Transitions mean crucial changes in the surroundings, the demands and the options to respond to those. It asks for proactive thinking of marketeers, for instance regarding demand and behaviour of customers. On a long term basis, not just focussing on the 'here & now', but also and even more so on how demand and behaviour will develop in the years to come.

And it is not just the customer demand that changes. Marketeers, as the antennas for the company, will have to deal with all resources – human resources, raw materials, financial resources etc. – and deal with new ways in which manufacturing will be organised. Information on future changes in all these areas is scarce and uncertain. But such changes should be part of the strategic and marketing planning process.

On corporate level, marketing also aims to strengthen the reputation of the enterprise in general. It wants to create a feeling of trustworthiness, competence and efficiency for all stakeholders, in particular for the financial stakeholders. But also customers are in general sensitive to that reputation, when they consider doing business with the company.

That reputation will be influenced by the manner in which the strategic and marketing planning process is organised, how the company takes transitions into account, and therefore ultimately how mature the enterprise really is regarding sustainability.

### *Level 2: market strategy level*

The essence of marketing is simply said: 'creating value'. For this particular issue of value creation a total turn-over might be expected. In the present socio-economic systems the value of a product or service is predominantly considered to be its financial-economic value, linked with its role and function in its use for a customer.

Increasingly the 'value' of a product gets a broader meaning, in depth and in extent. Where traditionally marketing value is translated as simply 'economic value', marketing value is increasingly translated as 'social' and 'ecological' value. Reasons are the growing awareness of all kinds of issues connected with products, due to easy accessible information, and the fact that there is often much variety of products or services for a specific need to choose from. Furthermore, an extension of the concept 'economic value' as such is taking place.

When designing a marketing strategy for a product or services, one should therefore assess:

1. their economic value in the broader sense;
2. their social value;

3. their ecological value.

and how a (part of a) market could respond to that, how to manage that, and how to use that.

### *Extension of economic value*

In 'traditional' marketing, the enterprise creates economic value just for itself, by trying to provide products for the pure functional need of purchasers and consumers. It concerns the basic functions products are considered to have. Increasingly however, customers have ulterior, more latent needs, for products or services functioning in another manner and on another level. Emotions, ethics, esthetics and the wish for meaningfulness are involved. The 'client' as marketing subject will ultimately value the company and what it delivers, maybe just implicitly, on how it fulfils these expectations too. (See myth 8.)

Clients are not just economic entities 'buying products' as is often assumed in economic modelling. They are human beings, also when a company sees them as an abstract entity purchasing goods. People have more and quite different needs than the purely functional. They do not just 'consume', they want to have a meaningful life. So people also value health, security, personal recognition, belonging, personal development, esteem, and most of all, they wish to have some contribution to the life of others and to society. They wish to live a meaningful life. What an enterprise delivers is, consciously or not, assessed with such issues in mind too.

### *Extending to social and societal value*

Social value lies in line with the extension of economic value as discussed just before. When we think of social value as the quest for meaning in one's personal life, which can be translated into various aspects, social value concerns the setup of the society to make such personal values accessible for everyone. Every participant in society has a role and a task to contribute, including enterprises which are not placed outside society.

Only when an enterprise really believes this and acts accordingly, incorporating this into its core business and core values will be effective and generate the reputation and trust the enterprise wants to acquire. Just superficial marketing talk with respect to sustainability will fail to do that in the end. People will look through such a scam and the opposite will happen of what the company wants to attain.

### *Extending to ecological value*

In line with social value people value healthy and pleasant surroundings. A growing number of people is concerned about the degradation of nature in general, its consequences for our well-being, and 'the economic value ecology has'. People increasingly feel that they are responsible for ecological systems too. Government, interest groups, NGOs and consumer-communities, and not just the traditional environmental groups, request that companies take their responsibility in this. Publicity, boycotts, legal action and advertisement (in which classical marketing instruments are used) are organised if it is felt that they fail to take responsibility.

Government responds with legislation, industrial and agricultural organisations with certification. The latter is commonly initiated by companies that feel that they are showing responsible behaviour where others in their field are not. They want the credit for their behaviour. At the same time the fact that such certification exists, will push others to adopt more responsible behaviour. It also makes it easier to clients to buy or to decline products. But note: also certification is as all marketing tools fraught with difficult issues.

### *Sustainable marketing, the basics*

The role of marketing will be transformed. Marketing itself will have transform. Newly added criteria will apply for really sustainable marketing (not implying that the old ones do not apply anymore):

- Marketing is an active agent between the company and its surroundings: 'the outside'/the society.

- Be aware of the complexity and the importance of value as a deepening and broadening concept.
- Create transparency: be open and honest. A company must show who it is and what it does. That concerns in particular how it functions within society and the economy, which ambitions and which views it has, and how it responds to what happens and what are key issues within society.
- Create trust and therefore a reputation. Transparency is one tool for that. Without trust there will be no lasting relations with clients, financiers, governmental bodies etc. Without trust your business will not last.
- Marketing should 'be anchored to the core business', not just embellish the products. Marketing should strengthen the identity of the company.
- Marketing should no longer be a trick and/or a medium/tool, but a be the result of an ambition, strategy and a philosophy about the new role/function of the organisation. It should actively communicate this at all levels in and outside the company.
- Marketing should refrain from any attempt to partake in 'window dressing'. Insincerity and false statements will kill trust and reputation.

## 5 Accountability

### 5.1 The interests of society

In the previous chapters we have heavily focused on the immediate self-interest of sustainable business practice for a company. Of course being a sustainable company implies corporate social responsibility, meaning a focus on the function a company has for society as a whole and its behaviour as a responsible member of the society it operates in. There are many good arguments for that which, in hindsight, come down to self-interest again.

In 1987 a Dutch multinational was criticized because of its lax environmental performance. A particular site was emitting high volumes of suspected carcinogenic compounds. It was all within the lines of the official permits. However, these permits were rather limited and outdated. The site was at some moment run over by protesters. Inordinate amounts of time of management and staff was spent on just keeping the problems and arguments 'away'.

Under that pressure the holding came to the conclusion that this battle was a senseless undertaking. They came to the insight that a completely other approach was asked for. The discussion should not be 'profit or environment'. Instead, the company should focus on gaining a place in society as an accountable stakeholder. This insight was formulated as follows: 'a company that operates in continuous conflict with society will not survive on the long run'.

That ended the conflict and actually opened up new opportunities for the company on that site. The measures and new technologies to improve performance proved to be very profitable in some cases. And thanks to better relations with the local community, the municipality was very cooperative when a new industrial area had to be found for the production. It pays to be a social accountable partner

In many treatises about society and economy the starting point is that enterprises first of all have an economic interest: they should be profitable and as much as possible. That is their societal function: generate money. If they do, it is always good for society, adding to the BNP and generating income. Other societal interests have to be served in another way, and should not hinder enterprises in 'doing their thing' for economy. Economy is seen as something different from society and not as an aspect of it. So social interest and economic interest are different. Or if the connection between society and economy is acknowledged, the starting point is too often still that when the economy is doing well (often meaning: when a lot of profit is made) this is automatically profitable for society, assuming profit contributes to social relations and well-being, the main aspects of what society should care about.

In literature the discussions concerning the core responsibilities for an enterprise point in different directions. Carroll (1999) states that an enterprise has a clear ethical accountability and cannot act 'just as it likes'. On the other side Friedman (1970) is championing fundamental neoliberal principles, stating: 'an enterprise has the duty to strive for maximal profitability. Any other consideration or goal will distract it from its core responsibility'.

However, in the end it is the customer, who is also a participant in society, who determines if a company can be profitable and if it can operate in the manner it deems necessary. Profitability is not only dependent on (direct) financial gains.

With regard to the question whether a company's profit comes before or after societal interest, not only plain economic science is relevant, but also political ideology. We all have different opinions regarding that issue. Proving the one or the other has as yet failed.

In a democracy it is therefore the role of politics to come to acceptable standards. Customers, consumers, and other stakeholders who all are voters in our democracy will at a certain moment in majority set standards when they see the need for that in their lives, their surrounding and society as a whole. A company should be aware of that and be able to anticipate on the developments that will cause.

## 5.2 The profit in societal values

Increasingly companies discover, the hard way, that they are indeed participant in society. They cannot isolate themselves from it and ignore societal feelings, views and needs. As people and society as a whole get better informed and have more options for products and services to choose from, companies are more and more confronted with such societal aspects and demands. Just being profitable, or even 'just greedy' is not so sensible anymore.

A report of the Dutch Social-Economic Council in which enterprises, unions and other societal groups are represented, defined the 'right to existence' of companies as 'supplying products and services efficiently through specialisation and allocation, thus generating an income for the participants, so that they can purchase the products and services they need' (SER2000, 'The profit of Values').

Employment, tax-based communal facilities and personal development of people are output that is as necessary as products and profit. The report provides many examples and options for how to do that and shows how companies actually benefit from these principles. The final conclusion is that value-free entrepreneurship does not exist. And every enterprise has to consider how to respond to that.

Some other practical arguments can also show that an enterprise must be aware of societal aspects and must act accordingly for its own benefit.

- Employees in an enterprise are just human beings too. They like social acceptance and personal appreciation (most of them anyway). That means that a company should behave accordingly, towards customers and suppliers and respect what they consider dear. If money is the only goal and consideration in dealing with others, you become fairly isolated in time. Bad publicity will be your part. Employees will also suffer from that bad name. It happens that they dare not tell where they work when meeting people. How will that affect their loyalty (and their value) towards the company?
- A good reputation is worth money. If they have the option, customers, people and companies prefer dealing with a firm that has shown to be trustworthy to all its stakeholders. ('If you want to know how they deal with customers, look at how they treat their employees' is an old maxim.) You want to do business with a partner where you can trust no unpleasant things happen that can taint your company and products.

Examples of mishaps resulting in a bad name:

- Bad working conditions at production sites of suppliers. This already causes public outcry on a regular basis, and this gets associated with all companies in the chain.
- Cheap but suspicious constituents that end up in your product (such as in food). It might require costly call-backs and certainly leads to lasting suspicions about your quality control.
- Forcing your own suppliers to accept prices that are too low and extra discounts, can turn sour on the longer term. It certainly will affect the quality and leads to problems in the whole supply chain, and not just bankruptcies. Think of the food scandals that already appear to become more common. Suppliers will try to find other markets and will not easily cooperate when changes are needed.
- When services play a major role in the relation, reputation and confidence in how you treat a customer is essential.

Whichever way you look at it, an envisioned quick profit will evaporate quickly when a customer, or supplier, loses trust.

- The role of 'trust' is particularly visible as a valuable asset in the financial services industry. That works both ways of course. The bank and other financiers have to trust the entrepreneur, but likewise an entrepreneur looks for financiers with whom he can build a stable relation. As banks

start propping up their profits with high costs for customers or ‘poisoned’ products, those customers who have the option will start looking for other banks. In the Netherlands the sustainable banks are growing very fast. Traditional banks, with their high salaries and bonuses for the top, are looked at with increasing suspicion and disgust. Other financial services, as accountants offer, are being scrutinized too. Cases in which fraudulent financial statements have been issued have led to severe problems and even near bankruptcy for major firms, such as the famous Arthur Anderson accountants, who were involved in the infamous bankruptcy of Enron.

- For any product trust about quality, warranties and services play a role. Many new business models, in particular the ‘sustainable’ ones, imply a closer relationship with the customers and suppliers, for example through lease and Product Service Systems constructions (PSS is explained in the annex). Your employees are essential in this. They have to be loyal and you have to trust them. When you treat them badly, they will quite likely treat your customers badly. Lack of loyalty from the entrepreneur towards employees translates into lack of loyalty to the company and eventually to lack of loyalty to the customer.

Research has shown that companies that pay the right attention to their place in society turn out to perform better economically as well. Contented employees, happy customers, non-grumbling neighbours and authorities make a sound basis to be profitable. Increasing profits by saving on investing in that ‘satisfaction’ is ultimately a dead end.

### *5.3 Strategic choices for Corporate Social Responsibility*

Corporate Social Responsibility (CSR) can be implemented in many different forms and manners. Nevertheless also here that must fit in the core activities, and must become an authentic part of the strategy and business model, to be credible, effective and to work in favour of the company too.

Different approaches are possible:

1. Showing the impact of the companies activities on social issues in response to concerns expressed by outside parties. For example, many companies already use ISO 26000 on CSR or comparable standards to assess their performance and report about it. They wish to show their positive spirit. It often starts initially as just a reactive action but can form the start of further adjustments.
2. Societal and socially important issues are actively taken up within the framework of the ‘normal’ company and business operations. This could result in creating workplaces for people with disabilities, or offering internships and training places. But it also means taking care of the welfare of all employees and their families. This is an active contribution to improve quality of life, on your production level. (This relates to the ‘enterprise 1.0’ level.)
3. Extending the care for the welfare of your own employees to the care for employees working elsewhere in your production chain, at your suppliers, at their suppliers, and so on, is becoming important. It is an issue that already attracts much publicity. Issues as the Asian sweatshops for clothing production, ‘blood diamonds’ etc. are presently the most important issues in CSR discussions. (This relates to the ‘enterprise 2.0’ level.)
4. See social issues and developments as an opportunity for the further development of your company and business model. An example: building or adapting houses for ageing people, so they can live by themselves longer. Offer services and products that are distinctly meant to improve the quality of life. But also respond to the need of consumers to reduce use of energy and to move towards renewable sources. Respond to the wish and need for better design of products and production, taking into account the scarcity of some resources. This is



a proactive approach and answers best to what we have described before as an effective sustainable strategy: the best response to opportunities and challenges that are arising in society is to come up with new products and services and innovative business models that fit these issues. (This relates to the 'enterprise 3.0' level.) *In Sustainable Entrepreneurship 3.0, the 1.0 and 2.0 level aspects must be included too. Offering a social product to customers, does not automatically mean you have achieved corporate social responsibility, when no or not sufficient attention has been paid to all other issues involved.*

In practice these three levels are often to some extent combined, certainly by the best motivated, and often best performing companies.

CSR and sustainable entrepreneurship are actually two concepts that do not differ much. In practice they are often used combined or alternately. Their origin is somewhat different. Sustainable entrepreneurship originates from the environmental, ecological and resource discussions, starting with a focus on 'planet' aspects. Social responsibility originates from the social oriented discussions with a strong focus on 'people' aspects, in particular the conditions people have to work in.

Both however focus on the social and economic conditions of production and ask attention not just for the local problems but also for worldwide (current and future) problems. They require the same strategy and are connected. The metaphors 'People, Planet, Profit/Value' and 'triple bottom line' are not randomly chosen combinations. A company that pays much attention to scarcity of resources but has no eye for the social aspects will not survive in the long run and the other way around. A balanced strategy is essential for effective sustainability.

There is some discussion if just doing 'good deeds' is really CSR. Many companies for instance make expertise and facilities available to improve conditions in your direct neighbourhood, or support agencies working in social fields by adopting projects that coincide with the own core business. Other companies are supporting charities, social projects, the local club or an art prize with a percentage of the profit. This is certainly an active contribution to improve quality of life but it is not connected to the core business. You can stop this effort anytime without really affecting your (sustainable) business strategy. And even more importantly, if it is done instead of real sustainable actions, it might prove counterproductive, steering money, actions and attention away from the really essential sustainable core business related issues.

A prime example of 'good deeds' that do not lead to structural CSR is offered by Dutch Post (PostNL). It supported the Food and Agriculture Organization of the United Nations with logistic support to distribute food to groups where famine threatened.

Very useful and respectable. But the core business of PostNL is in essence getting post and parcels to the customers in the Netherlands. Developments as changes in the amount of normal post (decreasing) and parcels (increasing, through web shops) as well as more competition, were not handled well. Making cuts in the existing dense system of distribution centres and trying to reduce labour costs very drastically led to problems as understaffing, disloyalty, competing distribution systems (through strategic alliances of supermarkets and large web shops), which PostNL totally missed. With new management, it is now again trying to find its social value and to profit from the unique possibilities its structure offers.



## PART 2: SOME MYTHS DEBUNKED

### *Barriers obstructing the use of sustainability as a profitable drive towards healthy businesses*

Discussions about sustainability and sustainable business are often fraught with simplifications, misunderstanding and faulty reasoning. A position might be taken on the basis of assumptions that are not always right. Facts and opinions are sometimes mixed up. Words and definitions are used and interpreted in a different meaning than they were meant to have.

In this section we therefore attempt to give another view on common myths told about sustainability. Hopefully this can create a different and more open minded perspective on sustainability and what sustainable business (3.0) entails. The myths treated here are certainly not all the myths that exist around sustainability but just those that concern the discussions on business strategy and innovation.

#### *Myth 1 A hazy concept*

##### **‘Sustainability is an indefinite and therefore useless concept’**

Sustainable entrepreneurship entails: taking into account the requirements and constraints, those for the present as well as those for the long term, because you wish your business to be viable in the future too. The question is: what does that future look like? What requirements and constraints will I have to deal with?

The future is of course uncertain. A precise prediction is impossible. We can sketch futuristic pictures and scenarios but whether those become reality, is questionable. Nevertheless, what we do know, is that we all wish for a future in which we can live comfortably. That implies that the future society and economy is organised so that we can live, work, eat and relax in a way we feel happy about. The means and the circumstances in the future must be able to support that. That is a clear basis for the concept ‘sustainability’. It is an abstract word, but the intention and concept/goal are clear. How exactly that will work out and how to attain such an situation varies of course for different situations and different actors.

In particular that ‘pleasant and agreeable’ aspect implies different things for different people. It is often rather ideologically coloured. Some give nature conservation priority, others assume that technological development justifies some ecological decline. Some believe in much individual freedom, others find the social network more important. There is a wide variety in visions and opinions and we will never agree on many principal issues.

It is the role of the political and democratic process to come to a joint vision and shared goals, and to determine the means we need for that. Nevertheless, when you try to take some distance, many often practical visions and separate goals are the same for everyone. Dwindling resources and economic instability are concerns shared by left and right wing politicians and voters.

No one denies that issues concerning sufficient food, health, scarce resources and social well-being are to be tackled. We may have different preferences for the ways to handle those issues, but a company can that is able to develop approaches which evade the ideological discussions, is doing its social responsible duty.

Working towards that economy and society where resources and conditions are indeed such that we all can live comfortably, is what we call sustainable development.. Of course when one wants to determine what type of action is needed to attain that, this will differ depending on who it concerns: the government, a company, individuals etc. A chemical company will have other responsibilities and need to take different measures than a municipality or an individual citizen. And even within the specific groups different approaches and strategies might be sensible, as discussed in this booklet.

But each of these particular approaches, visions, ambitions or philosophies will need to be an operationalisation of that concept, aimed at that concrete goal 'to make a pleasant future that can persevere'.

Confusion arises when a particular approach is deemed to be 'the best' of even the 'only' approach. At that moment that approach seems to become equal to the concept. However, for every situation the approach needs to be different. Equalling approach and concept leads to a perception that a multitude of concepts exists, which makes the concept as such seemingly indefinite.

## *Myth 2 Ethics is not my business*

### **'Business is regulated by markets, not by ethics'**

Ethics play a role, because all stakeholders, humans, do include ethical considerations in their actions, consciously or subconsciously. A stable society and stable economy require ethical behaviour. A viewpoint that often arises, is 'the market has no moral' and the market is 'a-political'. However, morals and ethics determine our behaviour, and therefore also influence economical behaviour. The economy, and society, are in essence based on cooperation and therefore also on trust. No one can survive or accomplish anything successfully on their own.

Economy cannot function without cooperation and therefore without trust in one another. That crucial behaviour, cooperation, is built in in our genes when we arose as successful species and it still applies. Cooperation and trust can only exist with some fundamental ethics and morals: do not kill, do not steal, and other do-nots are therefore fundamental biologically fixed values. And most people 'feel if something is right or not'.

Of course in the complex society as we have nowadays people with less strong inhibitions against injustice, acting with less moral sense, can get away with that. We should wonder if that is good for economy as a whole. When the social structure is too much impaired by unethical behaviour of companies and politics (e.g. the financial crisis) a backlash can be expected, in one way or the other. History is full of this. It is not good for the economy nor is it good for business, in the end.

A sustainable economy cannot exist without ethical behaviour. What the exact boundary between ethical and unethical is, is of course subject of discussion and also to some extent culturally determined. But there are borders that cannot be surpassed without endangering societal stability.

So ethics must indeed be part of business and sustainability.

## *Myth 3 Not my problem*

### **'Sustainability is a problem other people and groups have to handle. My task is only to let my business survive'**

The problems of other people and businesses might easily become your problem too, due to the interconnectedness of the economy through chains and systems, as described before. Problems and developments that influence specific production chains or socio-economic systems and participants, large or small, in it cannot be neglected by others because they depend on what they do too. On an even larger, global scale developments and issues elsewhere lead directly or indirectly to effects that affect us. We cannot escape this. It is not an option for a business to ignore this.

Clearly many global scale issues have their repercussions. Some are currently visible, some will have its effect in the near future. These issues will affect all human activity and businesses:

- resource scarcity and therefore more expensive raw materials;
- shortages of agricultural land, due to larger demand for food and erosion of existing areas (for instance due to increased biobased economy which is again the result of scarcity of fossil resources and fear for climate change);

- financial crises with their socio-economic consequences, poverty and loss of jobs due to which people start migrating.  
(for example one could consider the large influence the UK with its financial centre in London city has on the financial affairs in the world, as a cause for much migration towards the UK and so directly for Brexit: a self-inflicted problem);
- large-scale environmental problems, such as climate change, air pollution affecting health, and water shortages. They all result in public demand that authorities take action, due to which more regulations are installed (although everyone seems to favour less!), stimulating new forms of energy production and requiring new technology (a disadvantage for existing business but an opportunity for innovative businesses);
- socio-economic problems in many countries and regions (poverty, not enough or too low paying jobs, corruption, financial mismanagement) leading to social and political unrest. That is bad for the economy and businesses there, and leads to mass migration which is bad for those who thought to profit from the cheap products and financial profit gained there.

It should be clear that the issues and the problems we see as unsustainable are part of systems in which businesses are a participant. And the same applies to the solutions, whether businesses play an active or a passive role. So the need for a business to play a role in the availability of resources and the stability of social, political and economic circumstances is not a matter of idealism or utopianism, but an undeniable requirement for business survival.

The view that our pleasurable life should not suffer from measures to ascertain better work conditions and better payment of labour elsewhere is based on insufficient insight in the actual consequences of what we see as necessary for that pleasurable life: cheap, ample supply, excessive consumption, and the manner in which that is presently organised.

The socio-economic strain that this causes in the regions that supply us with food, oil and minerals leads to political and economic instability and often give way to regimes that appear to favour our demands for those resources but in the end make things worse for everyone, there and here. Mass migration, terrorism and piracy are caused by it. Whichever ideology is constructed around it, the local economy, or actually the failure of it, is the driving force.

The costs we make to address those threats, quite likely soar high above the profits made. The complexity of the issue lies in the fact that the effects are mostly very indirect and not for everyone easily seen in relation to the causes. Furthermore, the profits and the costs are not equally distributed over all participants in the economy and society. The profits are for the rich, the costs for the poor. And therefore power and necessity to do something about it are not equally distributed either.

That inequality does not only exist for the people, but also for businesses. Many businesses would profit if people would have higher incomes, maybe labour costs would rise, but sales would rise even more. But other businesses profit more from the low wages and just those appear to have more political influence. In the end unstable social and economic conditions are bad for all. And history shows that the most stable, open and democratic countries are the best economies, because they are able to handle the complexity of a well developed best.

### *Myth 4 Task of the government*

**‘Sustainability is a societal issue and not a business one. Only on governmental level can effective measures be taken. A normal commercially operating company cannot do it’**

Sustainability is about a future society and economy that is as stable and agreeable as possible. Businesses must fit into that. Therefore sustainable business is about ensuring that a business can continue its activities by responding to new opportunities and changing requirements, in the right manner. That is just self-interest. Government can and will set the boundary conditions which determine how ‘we as a society’ think that our well-being is best served (at least in functioning democratic countries). Given those conditions (i.e. the policies, laws, standards and regulations) it is

up to the businesses themselves to reorganise themselves, prepare for those future requirements and if necessary reinvent their businesses.

Furthermore, businesses must have their own views and perspectives on how to act. Politics mostly sets the standards and goals for the short term, at most for 'four years' (the political lifetime until the next elections). Certainly there are policies defined for longer term developments, but it is very hard to draft those, to make them really consistent with longer term visions that are acceptable and realistic and to adhere to them over a longer period of time. After every election a new government will have new and different views and ambitions. For a long term strategy of a company these governmental policies are totally unfit. But the addressed issues should be the company's concern.

Fact is that many essential issues of sustainable business behaviour are already laid down in national (and EU) laws and regulations. This is the case for environmental control, labour conditions, product safety and corporate governance. More recent regulations targeted corruption and misdemeanour in the financial field. On international level aspects as bad labour conditions at suppliers have led to treaties and regulations.

So a company itself has to have a perspective on sustainability independent from politics and government policies.

- Its investments concern much longer periods. Changes in production, products, organisation, finding and implementing alternative resources etc. require much more time than drafting a new policy and new regulations.
- When a company just waits for new policies and only then responds to them, even if the policies are for the long term and are enforced for longer periods, the company is quite likely too late. Certainly when other companies in the same business are more proactive.
- A policy is always a compromise, including opinions of voters who do not like change yet (or ever). A company must invest in what will likely occur and compromises do not always work then. Besides, some customers might already wish for or even require/demand products and services that are already more visionary and fit for future. That offers at the same time an opportunity to test and adapt new options.
- Offering new options and alternatives early on can actually speed up the pace of changes, with your company in the lead.

So companies might assume that it has no influence on sustainable development. But they do have. With their choices, they can support or even start new developments, with possible 'disruptive innovations'<sup>3</sup>. Even a small business can then cause large shifts. On the other hand, it is not just about the influence of a company on sustainable development, but also about the impact of sustainable development on the company. Sustainable development has an impact on the resources and on consumer behaviour. See also myth 9. It is in the company's best interest to respond to that.

It is a task for governments to set the rules and conditions on behalf of the citizens and society. But making an enterprise future-proof is first of all the responsibility of companies themselves.

### *Myth 5 An issue for the larger companies*

**'Becoming a recognizable sustainable enterprise is a fad only for the big companies that have the money to spend on it'**

Usually the large and internationally operating companies give much publicity to their efforts for sustainability and corporate social responsibility. They are the most visible and therefore easily

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<sup>3</sup> An innovation that leads to large system changes in the economy and society, and actually leads to changes in behaviour of people and in the organisation of companies and society as a whole. Examples are for instance the PC, the mobile phone and, longer ago, the steam engine, electricity and the automobile.

scrutinized and criticized for issues in relation to sustainability. Their impact, good or bad, is also large of course. Furthermore they do have the resources, expertise and organisational capacity to undertake something; to spend time and money on issues that do not directly create extra profit and to spend on publicity themselves. Besides, they are quite aware that criticism is not always unwarranted.

A sustainable profile is certainly good for a company's image, and offers all kinds of advantages. It leads to more confidence among shareholders, authorities (for permits) and financiers. It is beneficial to the value of shares and it sometimes makes help dealing easier. Large companies can also cover the costs of certificates and labels to show that their sustainability claims are not only empty PR.

For smaller companies, these arguments are less valid. Nevertheless, being part of changing economic systems they cannot shy away from the sustainability issues. These issues hit them as hard as the larger companies, and actually even more because they are mostly in a more dependent situation with fewer alternatives or financial reserves to cope with challenges. For them a good strategy is even more vital to survive. Being a sustainable entrepreneur might be not so necessary for PR reasons, but is crucial for survival.

Due to the sensitive PR aspects larger companies tend to neglect a focus on long term strategy. That long term is often not seen as urgent because 'the protests are now'. Furthermore large companies are often less sensitive to changing conditions because they dictate the market by their size. When they are listed on the stock market, their share value on the short term is a much stronger agent for investment decisions than long term societal and economic developments.

In the end however, a changing world, society, economy and demand will also affect large companies. Being large, having many stakeholders and shareholders involved, and therefore being sluggish (although not necessarily, as some companies have shown) might cause that change is sluggish, like the proverbial super tanker and maybe even not in time. So the paradox exists that the larger companies have the better resources for change but the smaller have the better instincts, certainly when it concerns family owned businesses that think in generations.

Larger internationally operating companies often present statements on their websites and in their yearly reports on sustainability stating 'that they serve society, humankind, being accountable and caring for the environment etc.'

Taking a better look at that statement, it is hardly ever clear what their concrete strategies are to adapt to the future system changes in which they play a role. Do these statements really concern their core business, are they proactive and leading or just doing some research and development to stay in touch 'just in case' and for PR reasons, to show that 'they are aware'.

For instance, Shell does some research on hydrogen for fuel and invests in some wind power parks, but the company is still mostly focussed on oil and gas for the next 25 years. Earlier, small investments in solar and biobased energy have been aborted. But they still present themselves as a 'sustainable company'.

## *Myth 6 Technology fix*

### **'Sustainable development can just be attained through better technology'**

Technological improvements and totally novel technology will absolutely contribute to sustainable development. Cheaper solar cells with a higher yield, energy efficient equipment, more environmentally friendly processes, and crops with higher yields all will in principle help making and maintaining society and economy a pleasant place to live and work in. But technology itself does not change systems and system change is what we also need. Behaviour, expectations and the way we use technology has to change too. Furthermore, improved or new technology should still be used in a sensible and sustainable manner. Not every promising technology automatically results in improved sustainability.

Introducing new or improved technology commonly asks for major changes in businesses and in economic systems as a whole. Production systems and complete socio-economic systems are to be adapted. New technology often requires new behaviour of producers and users to be really effective. For companies this means that they should look for new and adapted business models and other partners to organise their business. That is the core of sustainable development: to do things better and therefore differently.

An example is circular economy, aimed at reducing the need for new resources, in particular when it concerns scarce materials. There is a technological angle to that but the main issues concern organising closed production cycles, new forms of ownership and its complex judicial aspects, and the way users handle the products.

There is also the example of situations in which new, potentially more sustainable products are used in such a manner that the effect is much less than would have been expected. For instance light. New LED lamps are so much more energy efficient, cheaper in use and long living, that people tend to use much more light, even when it is not necessary. So energy consumption sometimes comes back to the old level: so-called rebound effect. The same happened with healthy food: people started eating more; safer cars: people started driving faster, etc.

### *Myth 7 It only costs money*

#### **‘Investing in sustainability costs a lot of money and offers no or too small of a return’**

As described before (in section 4.1): sustainable innovation is innovation with the right focus, including that it must pay off in every sense. It makes your company better adapted for future requirements covering all aspects of ‘People, Planet, Profit’ relevant for your company.

Investing means spending money, that is clear. The question is whether it leads to a profit sufficient to pay for that spending and whether it generates new income. Some costs are necessary to be able to operate at all. In itself the investment might not generate income, but it makes ‘generating income’ possible. If there is none of that it would indeed be money wasted.

Worse even: if investments are done with the wrong focus and supporting the development of the company in a wrong direction, they will ultimately lead to the demise of the company. That would be even more expensive. When the company chooses the right direction, investments to do that aim will pay off.

Sustainable investment therefore means responding to the future framework conditions and possibilities that arise through inevitable, sustainable, developments. In that one should focus on choices that are important for the company to adapt to system changes and remain profitable in the long run. For example, investing in measures that reduce the dependency on scarce resources, changing to renewable energy, changing to products that suit the changing moral preferences of customers and society as a whole.

The notion that ‘sustainability is expensive’ stems from misunderstanding what sustainability actually is as argued in the ‘myths’ before. And sometimes from the fact that sustainability is only used for PR reasons.

### *Myth 8 Just ticking of the standard list of actions*

#### **‘Becoming sustainable can be done with standard lists and protocols’**

Many companies feel the pressure and attraction of sustainable development, but flinch from the complications that might be involved. They think there is a simple way out in the form of standardised actions and to do lists. There do circulate several ‘official’ lists, scans, checklists and standards that show all aspects potentially relevant for a company on environmental, social, market-oriented, PR-oriented and financially oriented levels. Such generic lists are often used to determine how sustainable a company is. They are used in various certification programs.



Sometimes it is being suggested you just need to improve those points on which your company scores (too) low, for the present, and you will become more sustainable. A company shows its good intentions, gets a certificate and appears to be 'future proof'. Such lists however do not lead to an in dept assessment of the core business and the future issues that this will be confronted with. It does not lead to a comprehensive strategy addressing major system changes.

Furthermore, with such long lists the outcome can be that a company has to improve on many aspects, technological, working conditions, procurement procedures, the issuing of a sustainability report etc.. All have to be addressed. In practice that leads to many priorities which is unfeasible for most businesses, certainly for the smaller ones, other then superficial compliance, just enough to be certified.

What often happens in this situation, is that a few clearly visible and/or not too complex issues are addressed more or less thoroughly. That shows the good intentions and can even get a sort of star rating and there might be an actual benefit. Saving energy and reducing complaints from the neighbourhood, for example, is never wrong. It appeals to the corporate governance approach of sustainability: showing that you take your responsibility seriously. But for all the other issues it is business as usual. Then the actions do not necessarily lead to a reconsideration of the business strategy.

This approach, using score lists and selecting the most attractive issues, is common practice for many companies and is even the rule in business sustainability groups and organisations. It ultimately leads however to the expensive way of moving towards being a sustainable enterprise, or actually not, as discussed in myth 7.

Generic lists are a good starting point to obtain a first overview. They help getting a better idea of where you stand. But generic lists are totally inadequate for developing a strategy that responds to new framework conditions and challenges in order adapt to the system changes for a sustainable economy. You need to do some hard work to be able to develop your own strategy and agenda for sustainability. There is no simple fix.

## *Myth 9 No market demand*

### **'The customer does not ask for sustainable products or sustainable companies'**

Customers ask for the best response and product to their needs fitting all their requirements, in quality and certainty of supply. Two reactions are possible on this myth:

- Do you really know what customers demand, even if it is not stated explicitly?
- Are you able to assure production and supply of the product in view of what is happening in the supply chain side of your production?

As discussed in section 2.4, value is a strong incentive for customers to choose a product or to reject it. Are you, as an entrepreneur, certain that your customers have no wish for sustainability? Often companies assume that only the price matters. But many customers want 'value' for money and that includes much more. It can be a pleasant feeling, being socially responsible when buying something. More and more people are quite aware of the intrinsic sustainability or unsustainability of products. 'Organically grown' is booming. But also less conscious customers have a preference for 'good' when they have the choice and the price is acceptable.

At the other hand sustainability asks for a business strategy to survive the transit to that other, inevitably more sustainable economy. The appeal it has for customers is only one aspect of sustainability. The customer doesn't care about the problems you might have due to sustainability related changes in the supply of materials, energy and other resources. If you cannot guarantee supply due to expected disturbances and changes in the product chain they will turn to a company that has responded more adequately to that such changing situations.

Here again, too many companies look at the PR aspect of sustainability and forget the real strategic challenge they encounter.



Various studies have shown that a small group of people/consumers will choose consciously and as a matter of principle for explicitly sustainable and social responsible products, even when the price of those products is substantially higher: 10 to 11%. Examples are organic food and fair trade clothing. This is also the portion of the market you will lose when it is obvious you do not care for such principles. Many companies cannot afford nor wish to lose this part of the market. Certainly when the margins are already small, due to excessive competition. Turnover is therefore essential. So many companies want to show some sustainable behaviour and offer some sustainable products even if they consider it to be just PR.

On the other hand, there are indications that the market share of sustainable products and shops increases. And once in a while a complete shift happens, as in the Netherlands with 'slave free chocolate'. A group introduced fair trade chocolate and started a campaign against the prevailing slave like conditions people had to work in: 'the Dutch Tony Chocology campaign'. Quite soon large producers and supermarkets felt compelled to respond to that and to come with their own fair trade chocolate. It is not all perfect now, but it had a big impact. For other products comparable movements are becoming visible, for example for textile and palm oil.

### *Myth 10 A green label is enough*

**'I am sustainable if I have a certificate indicating my product is "green, organic, sustainable, reusable"'**

Even trustworthy labels and certificates only give a judgement for that moment. Your product might be all right now but the real sustainability of your business still depends on a future oriented strategy. That strategy needs, among other things, an assessment of the actual sustainability of your products and services in the developing future with its new requirements. Of course it is very good, for the present, to obtain a certificate. But a company should not become complacent and assume that its sustainable future is ascertained or acknowledged because of that.

Furthermore, 'never believe anything just because it is printed' is an old and still valid maxim, maybe even more nowadays, when you add 'because it is on the internet'. Customers become more and more aware of this. If the terms 'green', 'organic', 'sustainable' etc. are used by a manufacturer, it is not always certain that this 'completely' and 'objectively' is the case and is the same as what a particular customer would interpret as sustainable. Even officially accepted labels do not always cover all aspects of sustainability ('People, Planet, Prosperity/Value'). Individual manufacturers or groups of manufacturers have their own labels that they think fit their situation (and interests) better.

So labels declaring that a product is sustainable in some manner, is not necessarily sufficient if you really and conclusively want to be 'future proof'. See section 4.3 (on sustainable marketing) for some further thoughts on this issue.

### *Myth 11 Our company's environmental department handles it*

**'We have taken our responsibility: the separate (environmental) department handles it'**

Sustainability in companies often originates from the responsibilities and activities pertaining to safety, environment and labour conditions. Most companies have a specific employee or department that handles these activities. When sustainability awareness evolves, it is mostly these departments that take the lead, because environmental and health issues are important aspects. The people involved are often the best informed too because of their background and training.

But environmental, occupational health and safety (ESH) departments are mostly focussed on operational tasks. The legislation must be implemented and monitored. Permits must be requested. Environmental and safety equipment must be in good condition. Becoming a sustainable enterprise goes some steps further. It requires strategic choices about the direction of the innovation, the business strategy of the company, the products and markets a company wants to operate in and the place and role in the economy and society a company aspires. That is not the role nor the

responsibility of an operational department just aimed at ESH issues. They are not equipped for it nor do they have the position to do it.

It is the top management that must commit itself and take charge. Sustainability has consequences for all activities within a company and must therefore involve all departments. Raw materials become scarce, which will have consequences for design. Reuse and remanufacturing might be options. The design, purchasing and marketing departments will be responsible for that. Social issues become important, involving the HR and purchasing departments, etc. It requires central organisation, cooperation and coordination through the whole organisation.

ESH departments, or a specific CSR department, can of course assist, but when you just leave sustainability for them to decide, nothing will come of it. They cannot decide on new company strategies involving the core business.

### *Myth 12 The market will solve it*

**‘Demand by consumers is sufficient to coerce suppliers to take care of social aspects, resource scarcity and other economic and societal requirements’**

Many of the arguments given in this booklet concerning the inevitability of adapting towards a sustainable enterprise 3.0 is based on the pressure of the market. For example: customers want value and new products are needed due to transitions that occur. In a perfect economy only acting on the pressure of the market might indeed be effective and maybe in the future we get such an economy. But the economic rules in force at this time are so that only the financial aspects count: short term profits and maximisation of cost effectiveness versus cost for future gains. It is assumed that financial optimisation automatically means optimisation concerning the wishes people have during their life and for their well-being. It becomes clear that this is not the case.

It is further assumed that financial optimisation leads to solutions for existing sustainability issues such as scarcity of resources. When resources become more expensive, alternatives have to be developed. However, the financial approach here too is mostly short term focussed. So solutions that are found will in the end not prove to be very sustainable. An example is the large scale combustion of biomass for energy.

As long as social issues, environmental effects, resource depletion and what is known as ‘the tragedy of the commons’ are not part of the economic models, the market will not solve these issues, but will only create more and more unbalance in the system. Social and economic disturbance and possibly collapse are likely the outcomes. Therefore, corrective structures and regulatory measures are unavoidable, and we need other and maybe more regulatory measures than presently exist. As always, the ‘which’ and ‘how’ need to be decided on by us as citizens/voters, together, through rational political negotiations.

### *Myth or truth*

It should be noted that even myths have some foundation: larger companies do have more options (but do not necessarily use them), the market is important for change, new technology is required etc. That of course gives them their appeal and strength in discussions. But singling those out as ‘the’ solution is often ideological driven, to prevent other options to be considered. The radical changes and solutions will require a manifold approach. Economy and society are itself very complex systems, not in the least because humans are complex beings with a large variety of opinions and wants. Then simple approaches do not suffice. The fact that some myths seem contradictory is also inherent to that complexity.

Effective and acceptable solutions, sometimes compromises, are found only when that complexity is acknowledged and there is understanding and acceptance of the various opinions and wants. Ideological quibbling and obstinate fundamentalist approaches, from whatever direction, do not lead to really effective sustainability that leads to a future we all want to live in.

## Acknowledgements

The knowledge and insights in this book, this ‘manual’, as we see it, is based on twelve years of work by the ‘Research Group Sustainable Business Operations’ of the Avans University of Applied Sciences Breda, the Netherlands. It forms the outcome of many projects and countless contacts with companies with whom we discussed the manner in which they steer themselves towards sustainability.

Furthermore, the insights are the result of cooperation, discussions and knowledge exchange with the growing number of professionals who are contributing to the field of sustainability, in particular to sustainable management. We are much indebted to them.

This book is certainly not intended to summarise all present knowledge in this particular field. That knowledge is increasing rapidly, as is to be expected in this new field. In the ‘References and Literature’ section some publications are mentioned that form good additional material for the topics relevant to this field. The respective authors are rapidly adding more publications to this list.

We hope that we have made a small and hopefully useful contribution to the new and rapidly developing knowledge area of business sustainability.

My personal thanks to Louise Prompers who helped me editing this English version.  
All the errors that are still there, are mine.

## Authors

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He worked at DHV as advisor, at Akzo Nobel as manager Safety & Environmental Engineering, at TNO as a consultant and project leader, and as independent consultant.

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## ANNEX I frequently used ideas and concepts in business sustainability

When working on sustainability and business development many different notions, concepts and philosophies come into play. Often these are seen as essential aspects for an optimal approach. In this section, the most common ones are given and explained briefly, in alphabetical order. Weblinks are given for further information.

It is indicated briefly how such concepts fit in the 3.0 approach envisioned in this booklet. As is emphasized before, it is of the utmost importance that a company develops its own vision on which concepts could be essential to its own sustainable strategy, fitting its own particular situation and own ambitions and visions. It must be tailored to its own size and preferences and not just be confection. The latter might appear the easiest and cheapest route. If the own experience and visions of the people who form a company are not part of such decision making process, success will not be that easy and the outcome might be a flawed strategy for future viability.

### *Biobased economy*

Biobased economy implies that raw materials for products and energy are chosen which are as much as possible based on recently grown organic resources, from forestry, agriculture, animal husbandry, algae cultivation etc.). 'Biobased' stands against 'fossil based' where organic resources are used that date from many million years in the past: oil, coal, natural gas.

One reason is the prevention of climate change, which is caused by freeing that fossil carbon into the air as CO<sub>2</sub>. But there are other reasons, such as depletion of easy available resources, more cost effective energy production methods as the development of new technologies will reach maturity, and the extra value and possibilities biological materials and compounds offer due to their composition and structure. In fact, we already have much production on the basis of biobased material (cotton, wood, special chemicals, pharmaceutical products) because of the extra value such compounds and materials have.

Biobased is not in itself and automatically 'sustainable'. It can contribute to sustainability, because it offers a solution for resource depletion and often biobased processes are less polluting. Nevertheless, production and sometimes the use of biomass have their own unsustainable aspects. Excesses as cutting down primeval forests for palm oil plantations, for producing biodiesel, or more hidden, destroying the carbon content balance in soils due to overharvesting of crops and 'waste' wood from forests, have to be prevented.

Because of these issues it is often argued that in particular for bulk use of biomass for energy and basic chemicals only real waste streams should be made available, when no other use exists and using these does not disturb ecological conditions. When agricultural areas are made available to grow special crops for their compounds, there is the further risk that other areas have to be made available for food production, the Indirect Land Use Change (ILUC) problem. That could for instance mean cutting down primeval forests.

Further information:

- [EU Biobased Economy Centre](#)
- [Dutch Agro-Chemistry Centre](#)
- [Magazine biobased economy](#)
- [ILUC](#)

## *Circular economy*

The most commonly used definition of circular economy is: 'An economic and industrial system that takes the reusability of products and raw materials and the restorative power of natural resources as a starting point and strives for value creation and minimization of value destruction in every link of the system.'

In simple words: 'Biobased materials and maximal reuse of materials from existing products' what implies 'closing material loops with as few losses as possible'.

Many raw materials are scarce, in particular essential ones, such as those used in electronic equipment. As a result ore winning is more difficult, causing more damage to the environment and costs rise. The obvious solution is to reuse what is already there and not to discard it irretrievably, as in tipping or waste combustion. Discarded products and equipment should be collected and parts, compounds and the basic materials thereof should be reclaimed and reused.

Examples are the reclaiming of minerals, as phosphate, from manure, sewage sludge and food waste. Another example is recovering valuable metals as copper, gold, tantalum etc. from old cell phones. For some materials in many countries nearly closed loops do exist, for example for glass, paper, iron and plastic packaging.

In many cases it is also economically more profitable to make the closing loop as short as possible: reuse of parts or even the reuse of devices as a whole, after refurbishing and testing (also referred to as 'remanufacturing'). If that is possible, it is preferable above 'just recycling', during which only the basic material is recovered at the cost of some loss of material and much energy use. Besides, the 'added value' of a 'readymade product' is then also lost.

Some further information:

- [The Ellen MacArthur Foundation on circular economy](#)

## *Climate and CO<sub>2</sub>-neutral*

When sustainable energy consumption, energy saving or more renewable resources are being discussed, a major issue is always 'climate neutral', 'CO<sub>2</sub>-neutral' or 'energy neutral'. It is also used in several policy contexts: climate neutral living, a climate neutral municipality or CO<sub>2</sub>-free materials and products. The goal is that activities, products and services do not contribute to climate change.

However, it often leads to confusion. The different concepts are not exactly the same and the definition of the diverse concepts is not always clear when used in discussions or in policy goals.

CO<sub>2</sub> is not the only greenhouse gas. When 'CO<sub>2</sub>-neutral' is mentioned, does that imply the other gasses too, such as methane? How do you calculate it? When climate neutral products are mentioned, does one mean 'during use' or are production and reuse activities included too? Is everything counted in, making a material or product, reuse, or both? And as for a 'climate neutral municipality': do you mean only the own activities, or are those of other businesses also included? And what is neutral? Zero emission in the municipality or in the activity itself or compensation elsewhere, and how? Neutrality can be achieved and calculated in very different ways.

Already companies and governments develop programs to reduce the climate impact of their activities and products. That requires measurement methods and standards. A well-known one in the Netherlands is the CO<sub>2</sub>-performance ladder, which was developed at the request of the Department of public works to be used in procurement. It shows to what extent a company as a whole or the implementation of a specific project contributes to CO<sub>2</sub>emissions or reduces an existing contribution.

Further information:

- [https://en.wikipedia.org/wiki/Carbon\\_neutrality](https://en.wikipedia.org/wiki/Carbon_neutrality)
- <http://climateneutralnow.org/>
- [CO<sub>2</sub> performance ladder](#)
- [Carbon footprint calculation](#) (to determine your own impact)



## Corporate governance

Corporate governance concerns the way a company is managed and the way the management behaves itself. Good corporate governance implies that personal interests and ambitions are not placed above that of other stakeholders and society as a whole. Does a company's top management have sufficient attention and regard for the corporate and social interests at stake?

Are they totally honest about the activities and results? Are long-term social and company interests effectively served? Is everything legal? But also, even when some things might be strictly legal, are they socially acceptable?

Issues that come up are the way financial documents are made up and present the actual situation. Other issues are: tax evasion as part of profit maximisation. Rewards for the top management: do they really reflect a contribution to the longer term viability of the firm or do excessive rewards entice wrong behaviour? Do company directors not have too many other functions elsewhere, leaving them insufficient time to oversee what they are accountable for?

To ensure that corporate governance is done well, guidelines and standards are agreed upon, commonly as voluntary codes. Where it concerns public organisations and semi government, legislation is commonly in operation, for instance in the Netherlands, where rewards for management of public organisations have specified limits.

Further information:

- In the Netherlands a Good Governance code is agreed upon by all large companies, named after the chairman of the committee that drafted it: the Code Tabaksblat. Major items are transparency in the financial statements, a maximum number of commissioner appointments one can have, and clear accountability to shareholders, employees and society as a whole. See also the [website of the Dutch Corporate Governance Code Monitoring Committee](#).
- [An overview of European codes](#)

## Cradle to Cradle, Natural Step and other nature inspired approaches

Several philosophies to tackle the environmental and resource issues of sustainability are based on how nature organises its ecosystems. In nature, everything is endlessly recycled based on the endless energy coming from the sun (endlessly in human time standards). Well-known are Natural Step and Cradle to Cradle. 'Waste is food' is Cradle to Cradle's motto.

The main focus is therefore on the application of materials and production methods that copy or mirror natural processes and products. Materials and substances have to be collected when disposed of and reapplied, or materials and substances that are biodegradable and can be included in the biological cycle have to be used. This fits circular economy and biobased economy approaches.

Both approaches give obviously also attention to the human and social aspects, well-being in the workplace and attractiveness of products and their use.

The approaches based on these philosophies consist of a 'mindset', basic rules and extensive guidelines, with many examples and specific points of attention. They are in essence not a scientific paradigm.

Companies can be certified to show that they adhere to these rules and this mindset. When material resources and environmental aspects are the major issues for a company, it is certainly a sensible approach. However, there is discussion about to what extent such an approach leads to the best and complete set of options for any company and any situation. As said before, a sustainable strategy has to be the result of a thorough assessment, not of a nice idea alone. Otherwise it might just distract a company from the things that really matter. See also myth 7.

Further information:

- [Cradle to Cradle](#)
- [Natural Step](#)

## *Industrial ecology*

Industrial ecology is the concept that industries can work together as organisms do in nature, where the waste of one is the resource for the other. So the waste materials and the waste heat from one company is used by another. That is mostly done by companies that are situated in the same industrial area, but not necessarily. Waste materials and even warm water can be transported elsewhere, too. Costs determine the distance for that transport still to be profitable.

Examples are: SO<sub>2</sub> which is removed from flue gas of a coal-fired power station and made into gypsum with lime. That can be made into plaster, plasterboard etc. Waste from a vegetable cannery can be converted into methane and energy in a biogas unit and used by other industries or households in the neighbourhood. Waste heat in the form of warm water can be distributed through a system to a whole area to supply heat for offices, storage halls and processes for which such lower temperature levels suffice.

The idea behind industrial ecology is about 25 years old and is used standardly in many places, although the term is not always used. This 'ecological' use of waste is similar to the concepts behind circular economy, Cradle to Cradle and Natural Step. The motive has always been the concern for the environment and sustainability, but certainly also good business strategy and economics: making money out of otherwise non or low-value waste streams.

Further information:

- [General introduction to 'industrial ecology'](#)
- [Journal of Industrial Ecology](#)

## *ISO standards Corporate Sustainability and Environmental Management*

To prove that a company has its organisation sufficiently tuned for certain aspects standards exist. For instance that the quality of the product or organisation can really be guaranteed. For that you need standards that are accepted within your field, branch and by other stakeholders, and are proven. A company can then become certified according to these standards.

The largest international set of standards is that of ISO, for all types of fields, products and activities. A well-known example is ISO9000 for quality management and further standards on aspects in the so-called ISO9000 series.

Since the 1990s, many companies are in the possession of an environmental management system (EMS). An EMS is a management tool to ensure a company fulfils all requirements with respect to care for the environment. Those companies that have an EMS commonly have set it up and certified it according the ISO14000 standard or the comparable EMAS standard. The EMAS standard, which is more EU regulations based, is structured along the lines of ISO9000.

The standard determines the structure of how you organise things most effectively. It does not automatically set the concrete environmental and safety goals and requirements such as maximal emissions and technical performance. That must be the outcome of permits, general legal requirements, business codes and own views, ambitions and strategies in that field. The advantage of a standard and an EMS is that a company can efficiently comply with relevant laws and its own targets in this field. The management system generates information about what is happening inside and outside the company and makes sure that such information is available to those who have to act on it. This way a company can continuously improve and anticipate on new developments and issues. Often companies that are certified themselves require suppliers to be certified for an EMS standard too, just as they expect suppliers to have quality certification. At the same time, licensing authorities have a means to control compliance with permits and other legal requirements.

Many companies use this management system also to structure their handling of sustainability issues within the company. In doing so, one must realize however that the management systems are actually focussed on the direct own business operations and on what is going on in the immediate vicinity of the company and the production site. In systems thinking, this is the lowest system level,

see Figure 3 in Chapter 4. For really effective and strategic sustainability this is not enough. The strategy should focus on the core business and the function of the product or service. See myth 10.

Therefore, a totally new standard has been drafted: ISO26000 for Corporate Social Responsibility (CSR). The structure and many aspects are again based on the ISO9000 (quality) and ISO14000 (EMS) series. However, ISO26000 focuses more on the corporate level and how to ascertain that one has looked into important aspects and issues. It contains a list of possible issues that can be of importance for a company with respect to sustainability and CSR. The standard requires to check a company's position on that issue and to take some action. However, in principle the standard is, as yet, not intended for certification. A major reason is the complexity and width of sustainability and CSR. For most issues and aspects specific standards do not exist, and it is just stated that they need attention. Furthermore, many issues and aspects are strongly politically loaded and fundamental discussions about options and impact are still going on. Nevertheless certification for ISO26000 is offered, but more than a systems check cannot be done. The actual sustainability of a company must be the result of a thorough assessment of the strategic aspects on the chain and system levels, as discussed in this book. The checklist in the ISO standard is then just one of the tools in such a process and certainly not sufficient.

Further information:

- [ISO14000 for EMS, ISO26000 for Sustainable Business Management](#)
- [European EMAS standard](#)

### *Life cycle analysis and eco-indicators*

Life cycle analysis (LCA) is a tool to determine how large the environmental impact of a product or activity is. This is commonly calculated over the entire product chain, or product cycle, when reuse is possible. That includes extraction of raw materials, all steps in production, transport and use, up to and including the discarding phase and any recycling steps. Aspects covered are usually water, air and soil pollution, use of raw materials and contribution to climate change. It is used to compare products in this respect and to determine where the main environmental impact is caused, so that this can be improved. One can look for other designs, choose alternative raw materials and innovate processes to reduce the impact and, where possible, reduce it to zero. An LCA is commonly part of an eco-label assessment. A product must score higher than what would be 'acceptable' in a certain standard set, on specific issues. The results of an LCA are called eco-indicators.

If you are particularly interested in climate effects, such as CO<sub>2</sub> and other greenhouse gasses, as is described earlier in the section 'Climate and CO<sub>2</sub>-neutral' in this annex, LCA is useful, since it is focussed on the impact that is relevant for that. LCA is also a tool in the CO<sub>2</sub>-performance ladder and the carbon footprint. Because of the importance and the weight the LCA procedure has, the method is highly formalized and defined in the ISO14040-14049 standards.

Originally, LCA covers the physical environmental effects: Planet issues. There are developments to use the method also for more People oriented aspects and impacts, for instance for health and welfare. Another issue that is being incorporated in the method is 'indirect land use change' (ILUC), which plays a role in determining the actual sustainability of biomass use. The problem is that this is often very difficult to quantify. And quantification of impact forms the basis of the LCA method.

Further information:

- [LCA methodology](#)

Eco-indicator instruments that also use the LCA methodology:

- [Ecological footprint](#), [water footprint](#)

## *Sustainable procurement*

Governments that want to encourage sustainability and sustainable entrepreneurship put that as a requirement when procuring goods and services. That implies that not just the quoted costs of the different suppliers in the procurement process count, but that also the degree of sustainability is taken into account when the decision is made. Which decision is made, depends on politics of course, and can differ from case to case.

Enterprises can certainly do this as well in their procurement procedures and it forms one of the requirements for a business to earn a sustainability certification. In the Netherlands that is official practice for the national government. Regional and local authorities as provinces, municipalities and water boards are starting to do this.

It is sometimes suggested that doing this would be inconsistent with the European legislation on public procurement, but that is incorrect. As long as it is made explicit in the documents and requirements of a tender, and the manner of testing and appraisal is clear, it can be just one of the (many) requirements a tender has. To assist in giving clear and legally binding criteria in tender documents, guidelines exist, which are specifically made for separate products or services. Those clarify in detail what aspects are to be discussed and which information has to be supplied in order to be able to judge if a supplier and its product or service can be assumed 'sustainable'.

For clarity's sake one should be aware that such a list of aspects and criteria used in a procurement process is not the same as a list of strategic actions for a company to become 'sustainable'. It is only a snapshot of what a customer sees as a reasonable level of sustainability on this moment and only for the aspects a customer finds relevant for its sustainability on this moment. Of course, the criteria offer a view on the aspects a certain branch has to give strategic attention to. But a company will have to deal with a broader range of sustainability aspects and issues.

Further information:

- [Dutch sustainable procurement guidelines](#)
- [UN sustainable procurement guidelines](#)

## ANNEX II worksheets “Fociss<sup>Light</sup>”

**Fociss<sup>light</sup>** is the concise version of the Fociss methodology. The method can be used by companies to develop an effective strategy and priorities for sustainable and to become a sustainable business.

This ‘light version’ offers a first fast assessment of the issues and consequences of such a strategy. Doing so it shows the philosophy and the basic steps. In this form it can only be indicative but does not offer a complete advise or development route.

The annex contains the worksheets for this ‘light method’. In itself they give a good view on the approach and can be used on itself for a simple assessment.

The further approach is described in the papers mentioned under literature which are available through:

[www.academia.edu](http://www.academia.edu)

[www.researchgate.net](http://www.researchgate.net)

[hbo-kennisbank.nl](http://hbo-kennisbank.nl)

More information available from the main author and Avans University of Applied Sciences, Breda, Netherlands

**worksheets to do “Fociss<sup>Light</sup>”**  
**crucial steps for focusing on the main issues**  
**for developing an effective and innovative strategy to introduce sustainability in your business**

**Fociss<sup>light</sup>** is the concise version of the Fociss methodology. That is intended for companies to develop a strategy and priorities for sustainable innovation in their quest to become a sustainable business. This 'light version' offers a first fast assessment of the issues and consequences of such a strategy. Doing so it shows the philosophy and the basic steps. In this form it can only be indicative but does not offer a complete advise or development route.

A strategy for sustainable business is aims for the future relevancy, profitability and viability of your particular business activities. It requires you to respond to social, economical and technological issues and development, the changes in visons and attitudes people have (and therefore politics and market sentiments) with respect to those issues and therefore new requirements, conditions and opportunities that those developments will lead to. To be able to handle these a business must thoroughly assess those issues and developments, the changes that will occur and how they will affect its activities, to be able to make the right decisions for future viability.

Focusing is essential to develop a clear vision and to concentrate your efforts:

1. on your real core business
2. on the major issues you have to taken into account
3. on the most effective pathway towards future viability

There is much going on in society and economy. You cannot handle all of them. You have to concentrate your means and efforts on aspects that are crucial for your particular activities. Doing otherwise for instance concentrating on the hypes of the moment would make you appear very involved in societal and economical issues, but it will not help your business nor make you really sustainable in the long run.

**NB** When using Fociss and Fociss<sup>light</sup> (and actually any 'sustainable business approach') one must single out a coherent part, a specific product and activity of your business. Combining activities and products which are different in essential aspects, will lead to confusing issues and priorities.  
(for instance a business that produces electronics as well as electric cars has too develop separate strategies for those different activities, and maybe even for different electronic devises as well to become a sustainable business as a whole)

***The Fociss method is developed by the Avans University Research Group Sustainable Business Operation***

The following answers have to be answered for focusing on the essential issues and actions for a strategy:

## **1 describe the business and the specific product/activity/service**

### **1a what is the real core activity and competence**

→ *function thinking (section 2)*

- one must be certain of the real core business, the product/service-market combination and its function it delivers to a customer for which one values it (why does a customer choose this and why me?)

### **1b how is it put on the market and what is the manner and model you earn a profit from it**

- selling, leasing, maintenance, subscription, pay per use etc.

### **1c how is that organized from source to use/waste**

→ *chain thinking (section 2)*

- all activities and steps needed in total supply chain, also those outside your own business

(this gives content and details for your own 'hamburger model for sustainable business', figure 1 in section 3.1) )

## **2 with whom and with what is my business connected and involved in society and economy**

→ *system thinking (section 2)*

## **3 what changes and trends do you see in those parts of society and economy, due to which reasons**

Besides to already present changes and shifts, try to see also the likely future, near and farther away in time.

Try to determine where strange and actually unacceptable situations, societal imbalances and possible conflicts do occur which would lead to new views, changed policies and in the end economic reshuffling. That could still be years away but so are the effects of many of your own developments and investments!

(such as milk being cheaper as water, financial bubbles, continuous growing air travel etc.)

## **4 what sort of consequences does that have for your type of business in general**

Meaning general changes and trends for the production supply chains you are part of and you are dependent on.

(such as resource scarcity, climate change measures, human exploitation in low-wage countries)



### **5 what does that imply for your own specific business activities in particular**

Because such trends and changes will influence your own particular core business, products, market, work processes, supply chains, earning models etc. advantageously or adversely, or even make them redundant. Otherwise it will lead to new opportunities, new products and new functions that have to be filled in.

Actually this is the most complex and comprehensive step in the Fociss approach. In the extensive method this requires interviews for which a question matrix is available to structure such interviews and the outcome.

### **6 select those which are essential for you and will have the most impact**

From that multitude of trends, options, worries and new conditions which follow from step 5 one must make a selection and set priorities to make any approach and strategy manageable.

Crucial in that is that one can envisage how the future of the business, a product or activity could be in view of how society and economy will develop as a whole. (*see backcasting section 4.1*)

One must set one's own ambitions with respect the specific function that a product and service can deliver in that function. Some 'soul searching' is needed, one has to 'reinvent' the business!

### **7 which concrete actions, innovations are then needed and applicable**

That requires a combination of practical sense and visionary creativity, based on the knowledge of the own staff and external experts combined.

### **8 which are actually practical and within which timeframe**

Charting out technical, economic and financial, organisational and often psychological factors involved that can support change or just hinder it (*'the innovation paradox'*).

**Note:** *it will be apparent that many of the questions above and issues that come up are not explicitly or exclusively 'sustainable' or 'social responsible' related, in its strict sense.*

*That has as reason that:*

- *both are all too often seen in a purely and restrictive ethical and ecological perspective;*
- *both are fundamentally entangled with all other, so-called 'normal business' activities and issues which have to be developed as being essential also for the future viability (sustainability in extended sense) of the business. So both 'normal' as the more strict sustainability oriented issues and actions cannot be looked at separately. Otherwise one would develop different business strategies, one based on sustainability issues and the other on 'normal' issues?*
- *anyway the difference between sustainable / social responsible and 'normal' behaviour is very vague and shifting. (is paying your bills in time ethical or just normal? and good information with financial products? and not exploiting people who work for you?)*

**1.a what is the core business and real function and value of the product and activity**

(that which determines the real value of your business so not so much the physical product or service that delivers that value for a customer: transport, not the car)

Are there changes foreseeable and even taking place in that function, the value it has, the form it is delivered and the circumstances around it?

**1.b business and profit model**

(the manner in which you are recuperating your costs)

Are there indications and that better business and profit models exist, are being considered and/or obstacles to use them and/or that specific models, such as the present one pose problems (environmentally, socially, financially, market related)?

**1.c production system (process, product chain)**

(Inventory of the main steps and phases to make the core business possible: from essential resources, intermediates, your processes, end-use and discarding/reuse)

Assessment of developments, trends in technology and use that are presently already taken place, autonomously or due to already changing conditions and requirements in any of those steps and phases.

**2. which actors is the business dealing with, with which (socio)economic (partial) systems**

which systems are the activities part of, which systems delivers resources, intermediates, is the organisation dealing with.  
 (examples: energy supply, agriculture, transport, organisation of labour, transport, chemical industry, information services)

	<i>systeem</i>	<i>relevante essentieel aspect/activiteit daarin</i>
a		
b		
c		
d		

**3. which changes are taking part in those systems, 'major transitions' towards and / as result of 'sustainability' and on which level**

(examples: new materials, other sources, higher costs of supply, 'ethical procurement', new product needs)

*issues described in 3. a, b, respectively c, etc. should correspond with the systems selected in 2. a, b, etc.*

a	
b	
c	
d	

<b>4. which <u>general</u> effect would these in 3 selected changes have on the processes/products/chains (on their function in the systems and the manner they can be produced and delivered)</b> (examples: better or worse position on the market, higher costs, legal impediments wetgevingen verboden, CO2 heffing, energie nul huizen,)	
<i>issues described in 4. a, b, respectively c, etc. should correspond with the items selected in 2. and 3. a, b, etc.</i>	
a	
b	
c	
d	

Next step 5 is complex and asks for creativity, an open mind and some soul searching: 'out of the box' thinking. The matrix, even in this simple form does not ask for putting things in the right square and exact interpretation of definition. It intends just to stimulate thinking about issues and aspects. Whatever you think might be fitting can be stated. That can be threats be certainly also new options as saving on energy, resources, costs, as well as new options in products or services, as smarter processes and novel technologies.

The production chain as it is in this example filled in horizontally is a general one for an average industrial production of goods. When using it in other sectors, financial, health, ICT, services **that have to be filled in differently**. Many of those phases in the chain will then concern 'non material' aspects, such as a service, a treatment, a decision etc. The matrix is just a tool to come to an as complete possible inventory of aspects, factors and issues a business will be confronted with.

<b>5. which specific issues, aspects and factors concerning future viability (broadly) related to sustainability have influence on the specific process/product/chain for my business (or selected product/activity)</b> <i>(Fociss matrix)</i>									
describe specific aspects and issues with risks and/or options mention also: - related to a specific sustainability development / transition? - acute or more long-term - likely economic impact		raw materials/ sources	intermediates	transport and storage	production phase 1	production phase 2 packaging	storage, distribution	market ptions, product use, maintenance and services	discarding, reuse and recycling, disposal
<b>type of aspects to assess</b>									
planet / physical aspects	energy use								
	resource use								
	direct environmental & health effects								
	spatial impact								
	nature & ecology								
people / social cultural aspects	labour conditions and wages								
	safety & quality of the surroundings								
	impact global & on other economies								
value/profit new options or risks	costs, opportunities & market option								
	trust, reputation & social acceptance								
	contribution to prosperity, local & global								

<b>6. which findings from step 4. but in particular from step 5. do need priority for my business?</b>		
	finding/issue	because
a		
b		
c		
d		

<b>7. which innovation or innovation direction would be necessary for those priorities (technology, organization, market aspects, for the processes, utilities, intermediates, material use, products) and/or which conditions and requirements innovations do have to comply with</b>		
	finding/issue	innovation(s) / requirement(s)
<i>issues described in 7. a, b, respectively c, etc. should correspond with the issues selected in 6. a, b, etc.</i>		
a		
b		
c		
d		

<b>8. practicability, feasibility for the business in its present and future form</b>		
	necessary innovation	<ul style="list-style-type: none"> <li>- technical: novel or existing, speed of development, test phase and operation, adaptability of present practices;</li> <li>- financial: height of costs, manner of financing, grants, profits: direct or on long term;</li> <li>- organisation: changes in procedures, and internal organisation, training, etc.;</li> <li>- production chain: new suppliers, new requirements for suppliers, other relation with customers;</li> <li>- system and societal aspects: advertising, place and role in transitions and the speed change happens</li> </ul>
<i>issues described in 8. a, b, respectively c, etc. should correspond with the issues selected in 6. and 7 a, b, etc.</i>		
1		
2		
3		
4		

***The Fociss method is developed by the Avans University Research Group Sustainable Business Operation***