



HAAGA-HELIA
University of Applied Sciences

Liisa Rohweder



CLIMATE CHANGE – A Business Challenge



HAAGA-HELIA
DISCUSSION
9/2008

Liisa Rohweder



CLIMATE CHANGE – A Business Challenge

© the author and HAAGA-HELIA University of Applied Sciences

HAAGA-HELIA Publication Series

Discussion 9/2008

This publication is protected by the Copyright Act (404/61). Photocopying the publication is prohibited without a permit. More information about permits and their content will be provided by Kopiosto ry, www.kopiosto.fi. The digital copying or manipulation of the publication in full or in parts is likewise prohibited.

Publisher: HAAGA-HELIA University of Applied Sciences
Layout: Oy Graaf Ab
Cover design: Tarja Leponiemi
Cover image: Mikael Damkier

ISSN 1796-7643

ISBN 978-952-5685-25-1 (pdf)

Contents

1 Introduction	4
2 What is Sustainable Development?	5
3 Why Companies Should Take Climate Change Seriously?	7
3.1 The impacts of climate change	7
3.2 Climate change as a man-made problem.....	8
4 Responsible Business	11
4.1 What is responsible business?	11
4.2 Rationale for responsible business	13
5 A Climate-Responsible Operating Mode	17
5.1 Building a climate-based strategy.....	18
5.2 Establishing a management system for strategy implementation	20
5.3 Committing personnel through leadership	21
6 Conclusions	23
References	24

1

Introduction

■ Climate change is a concern for international organisations, national governments, businesses, nongovernmental organisations and individuals all around the world. For example, according to a survey 86 % of Finnish people say that climate change is the biggest environmental threat of our time (Johansson et al. 2007). We live in a dilemma; on the one hand, we call for rapid economic development and ever growing stock markets, but on the other hand, we are increasingly concerned that the natural systems we depend on may collapse – climate change being the most obvious and acute of these threats.

During the past years, the role of business in climate change has stirred a very lively debate, because business decisions can have a central role in fighting against climate change. Scientists share the opinion that for more than a century economic development has increasingly emitted greenhouse gases to the extent that the entire planetary climate system is changing. The public discussion and stakeholders' increasing interests in related issues have pushed companies to take an active role in the process. Although companies' pro-activity is increasing, it is still relevant to ask how to run a business in a sustainable way. Depending on the strategies, goals and methods employed, businesses can have a positive or negative impact on the natural environment and societal structures.

In this article, I will first describe the concept of sustainable development as climate change is linked to one of the most evident sustainability related challenges of our time. Thereafter, I will address the consequences of climate change from the environmental, societal and economic point of view and thus address the importance of responsible business from a moral perspective; the main reasons for climate change can be derived from economic activities. Thirdly, I will establish how companies can in practice contribute to climate change and I will present a climate-responsible operating mode. This operating mode involves three interrelated activities, which are delivering a company strategy, establishing a management system and committing people through leadership. At the end, I will draw conclusions based on the ideas presented.

2

What is Sustainable Development?

■ Sustainable development can be seen as one of the fundamentals of any society, and the failings in this respect can be costly both in nature and human terms (Gore 2006). The most significant global development trends and challenges of sustainable development are associated with climate change, water resources, global poverty and inequality among people as well as population growth. These global challenges also affect Finland. Sustainable resolution of these challenges requires simultaneous and mutually supportive short and long-term actions in all sectors of the society at the global, regional and local levels. This is not possible unless we have a common understanding of what sustainable development is all about.

There have been a number of attempts to define sustainable development (Pawlowski 2008; Zbigniew 2008; Senge et al. 2007; Kates et al. 2005). Originally, it was defined in the so-called Brundtland Report (World Commission on Environment and Development 1987) as a dynamic process which *”meets the needs of the present without compromising the ability of future generations to meet their own needs”*. A virtue of this definition is its concern for the future: we are not allowed to selfishly and carelessly only focus on our own temporary profits, but our children and their offspring should also have good living conditions. The Brundtland Report contains two key concepts: the concepts of “needs,” in particular the essential needs of the world’s poor, to which overriding priority should be given; and the idea of using natural resources within their carrying capacity.

The definition of sustainable development given in the Brundtland Report is still the most often quoted. However, that definition is an ethical standard that has to be put into practice. One such attempt has been made by the General Secretary of the Finnish National Commission on Sustainable Development, Mr. Sauli Rouhinen. According to Mr. Rouhinen, sustainable development means leaving the same economic, social and ecological capitals that we currently have to the future genera-

tions. Sustainable development means that none of these capitals should decrease but rather increase (Rouhinen 2008).

Ecological capital deals with the mechanism and conditions of natural life sustaining systems, how they can be maintained and how their destruction can be prevented. It has to do with the connection between human needs and nature's capacity. In terms of climate change, this means modest and energy-efficient use of raw materials and energy.

Social capital means meeting human needs within the limits set by the conditions for ecological sustainability. It deals with the needs of the poor and the rich (intra-generational equity) and the needs of the present and those of the future generations (inter-generational equity) (Ryden 2007). Social capital also includes the challenges of cultural diversity. Overall, it is about human wellbeing and a good life for all. Although a good life means different things to different people, there are certainly basic needs and such values that all people share.

Economic capital takes into consideration ecological and social capital building, both from local and global perspectives and from a future perspective. According to the sustainable capital building point of view, in economic decision making environmental and social aspects should be taken into account in accordance with what is considered just and within the ideal of a good life. From that point of view, sustainable business is not business-as-usual, but it is founded on a completely new set of values, and thus it asks for a change in traditional business thinking where the outcome is measured in purely (often short-term) economic revenues (Rohweder 2004).

An essential feature in sustainable development is that ecological, social and economic capital should not be treated as three separate entities. Instead, they should be managed as integral parts of a larger whole. The process of sustainable development needs an integrative mindset. An integrative way to consider development activities and their effects enables win-win-win opportunities in building sustainable societies and environments (Virtanen & Rohweder 2008). A win-win-win situation means not only management of nature and ecological conditions towards sustainability, but also economic profit and the wellbeing of people. Therefore, rather than seeing business as a barrier for ecological or social sustainability, it should be seen as a vehicle for a better future.

3

Why Companies Should Take Climate Change seriously?

In this chapter I will first present evidence about climate change and what kind of effects it has on ecological, economic and social sustainability. Thereafter, I will outline the reasons for climate change and thus build the moral base for responsible business.

3.1 The impacts of climate change

■ Climate change is a practical mega challenge for integrating the ecological, economic and social dimensions of sustainable development. Scientists warned about climate change already 30 years ago. Only now, as the impacts of climate change appear around the globe, it has received major attention among all sectors in society. The media reports continuously about melting glaciers, rising sea levels, changes of tree stand in forests, storms, floods, lack of snow in the north and increasing droughts in the south. The fact that the 10 warmest years globally since 1856 have occurred in the last 15 years has been one of the most startling phenomena for both political decision makers as well as for business managers and citizens all around the western world.

In 2006, a World Bank expert team led by Sir Nicholas Stern published a highly regarded report on climate change. According to the report, unless no further actions are made, the average world temperature will continue to rise creating unpredictable ecological, economic and social risks (Stern 2006). According to the World Wildlife Foundation (WWF), the temperature rise must stay well below 2°C in order to avoid dangerous climate change.

The impacts of climate change are not evenly distributed – developing countries will evidently suffer most. Developing countries have a geographical disadvantage as they are located in the warmest areas of the globe. Many of these countries are already now struggling with their current

climate. Further warming will affect, for instance, the availability of water and the productivity of agriculture, which is the most climate sensitive of all economic sectors. Falling farm incomes will increase poverty and reduce the ability of households to invest in a better future. Low income levels make the adaptation to climate change particularly difficult.

Ecological impacts of climate change in developing countries will even spill over national borders as rising sea levels and other climate-induced changes will drive millions of people to migrate. For instance, more than a fifth of Bangladesh would be under water with a one meter rise in sea levels, which is a real possibility by the end of the century. Climate related conflicts among people will also be serious risks in West Africa, the Nile Basin and Central Asia (Stern 2006).

Climate change may have small positive effects for a few developed countries. According to Stern's report in higher latitude regions, such as Canada, Russia and Scandinavia, a 2–3°C increase in temperature may lead to benefits in the short term through higher agricultural yields, lower heating costs and a possible increase in tourism. However, the short term benefits from climate change in these areas will be counteracted by increased costs of damages caused by storms, hurricanes, typhoons, floods, droughts and heat waves.

Developed countries in lower latitudes are more vulnerable to climate change. To cite an example, water availability and crop yields in Southern Europe are expected to decline by 20 % with a 2°C increase in global temperatures. Regions where water is already scarce will face serious difficulties and growing costs. Heat waves, such as the one which Europe suffered from during the summer of 2003, will increase. These weather conditions have severe consequences: in Southern Europe 35,000 people died during 2003 and the agricultural losses were \$15 billion (Stern 2006).

3.2 Climate change as a man-made problem

Climate change and global warming is a man-made problem. The amount of greenhouse gases in the atmosphere remained relatively constant before pre-industrial times. Since then, the composition of the atmosphere has changed, and the concentration of greenhouse gases has increased substantially. The most significant of the greenhouse gases is carbon dioxide (CO₂), accounting for over 80 % of global warming pollution. Around 97 % of the CO₂ emitted by western industrialized countries comes from burning coal, oil and gas for energy (Stern 2006).

Industrialized countries are currently and historically the largest emitters of CO₂ (Figure 1). Their per capita emissions are many times higher than those of developing countries. Already now the countries with the lowest gross domestic product (GDP) are suffering of the impacts of climate change the most, and this trend will most probably continue. A low GDP level makes adaptation to climate change difficult and investments in climate friendly technology almost impossible. This increases the responsibility of countries with a high GDP to initiate actions for reducing overall emissions and to help the low income countries to implement climate friendly technology. Industrialized nations have the technological and financial potential to reduce emissions and thus contribute positively to reduce the impact of climate change (Gore 2006).

As figure 1 indicates, regional shares of emissions produced between developed and developing countries are changing as the consumption in developing countries is increasing. However, it must not be forgotten

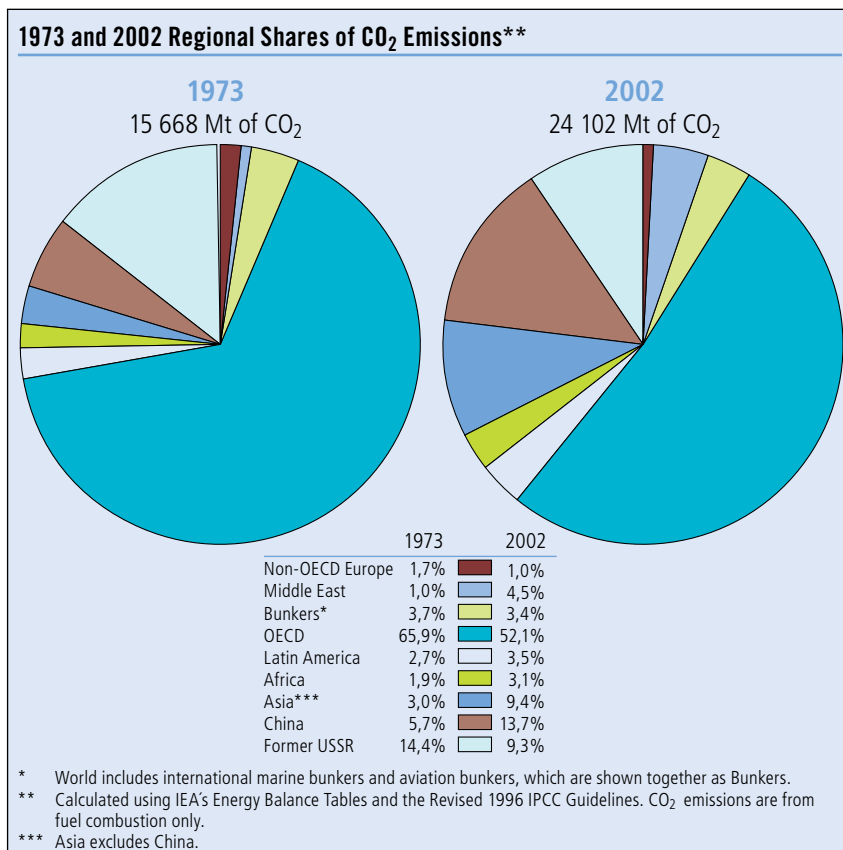


Figure 1. Regional shares of CO₂ emissions in 1973 and 2002 (Adapted from https://www//climate_change/problems/, visited 15.6.2008).

that a large amount of the products consumed in developed countries are produced in developing countries.

The evidence according to Stern's report shows that ignoring climate change will eventually damage economic growth. In case actions are not implemented in the upcoming decades, there will be risks of major disruption to economic and social activities later in this century and the next, on a scale similar to those associated with the economic depression of the first half of the 20th century (Stern 2006). The EU is committed to decrease greenhouse gases by 20 %, to the level of the year 1990, by the year 2020, and even more if other countries commit themselves to similar reductions (Johansson et al. 2007). Turning down the growing trend in CO₂ emissions of today's levels is a major, but not impossible challenge. Taking action to reduce emissions should be viewed as an investment. It is a cost that needs to be paid now and in the coming decades (due to the failures made during the past decades) to avoid the risks of very severe economic, ecological and social consequences in the future.

4

Responsible Business

■ As presented in the previous chapter, climate change is mostly a result of CO₂ emissions from economic activities of the past decades such as from the use of natural resources and harmful emissions from industry. Presently, as the consequences are evident, there seems to be for the first time in the history of industrialization, a common understanding that immediate actions on both the political and company level are needed in order to safeguard the state of the environment and adequate living conditions for future generations. Tackling climate change should be seen as a pro-growth strategy for the longer term, and that it can be done in a way that is desirable both for rich and poor countries. The concept of responsible business has animated a lot of debate, climate change having been the most often discussed example of the content and meaning of it. In this chapter I will first address the concept of responsible business. Thereafter, I will present five arguments to fight for climate change.

4.1 What is responsible business?

The following concepts are widely used in connection with responsible business: corporate social responsibility, corporate responsibility, good corporate citizenship, sustainable business and responsible management. The concepts vary both in their appearance and their content (Dahlsrud 2008; Rouhinen 2008; Moon 2007; Vauhkonen 2007; Rohweder 2004). All these definitions include reference to sustainable development in one way or another. It is considered a good thing for companies to manifest sustainable development, which many of them also do. As a result, there is the danger that companies do it only for image-making purposes without actually addressing the complex concept.

One way of defining responsible business is as follows: “Responsible business is sustainable development on the organizational level” (Rohweder 2004). Thus, responsible business according to that definition contains the

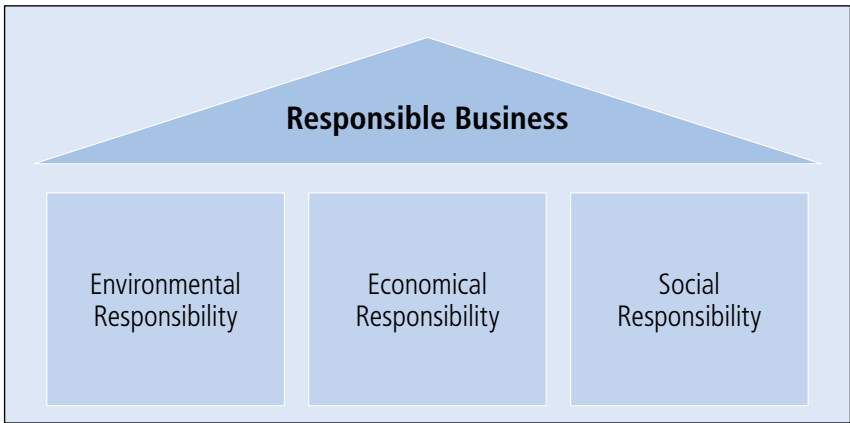


Figure 2. The dimensions of responsible business.

same capital building dimensions as discussed earlier. The dimensions of responsible business are illustrated in figure 2. The principle aim is that as a result of a company’s activities, economic and social capital should increase and the ecological capital remains at least at the same level. Other features of corporate responsibility are a time perspective and transparency in all decision making and actions.

Environmental responsibility deals with production of environmentally friendly goods and services. Environmental responsibility plays a central role in companies’ commitment to climate change. The main sources of climate change induced by companies are the use of materials and energy (heating and electricity), waste, and logistic operations, such as traveling, freight and transport. Figure 3 below illustrates KESKO’s environmental impacts according to its Corporate Social Responsibility Report (2007).

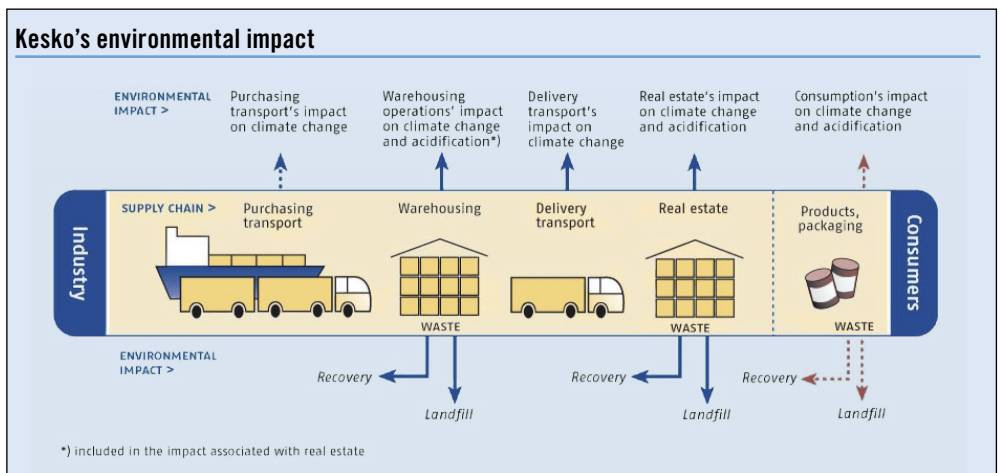


Figure 3. KESKO’s Environmental Impact (Corporate Social Responsibility Report, 2007).

Social responsibility deals with aspects related to company personnel, such as equality, wellbeing and the safety of working conditions. Additionally, the safety of the services and products from the consumers' point of view are part of a company's social responsibility.

In addition to promoting ecological or social sustainable development through activities under the firm's direct control, companies can also carry indirect responsibility in ecological and social questions. Examples of such activities are demanding high environmental performance from suppliers or supporting conservation campaigns such as climate change or rainforest conservation campaigns. From society's point of view, a company can act indirectly in a socially responsible way by, for example, supporting campaigns which are of high importance for the wellbeing of society. One example of indirect social responsibility is companies' donations through Red Cross or other organizations to the victims of natural catastrophes. Although indirect activities play an important role from the ecological and social sustainability point of view, it is most important that companies promote sustainable activities in their core operations (Rohweder 2004).

According to the classic definition of a business organization's responsibility, companies exist to create a surplus of income over costs by meeting the needs in the marketplace and thus contribute by sharing welfare among its stakeholders. Interpreting economic responsibility within the boundaries of what makes business sense within a relatively short time span (2–5 years) is in accordance with the aforementioned traditional definition. However, the idea of sustainable development stresses a longer term approach to economic responsibility. When companies honestly adhere to sustainable development, they integrate economic responsibility into their activities in accordance with what is considered just from the social and ecological perspective over a long term (Rohweder 2007). This kind of responsible business calls for a new moral base. It is obvious that companies need to reorient themselves in building a responsible strategy, in responsible management systems as well as in responsible leadership in order to successfully integrate all the dimensions of sustainability in practice.

4.2 Rationale for responsible business

Until now, industries such as forestry, chemical or iron, which are heavy users of energy, have been the focus of environmental discussion and their operations have been monitored by government regulations and steered by

taxation. Due to the global signals of climate change, the discussion about the responsibilities of all business sectors has been brought into focus, even traditionally “clean industries” such as banking or investment, which represent the service sector. The rationale for companies to participate in the fight for climate change has interested several researchers (Parkin & Uren 2003). Key arguments according to the majority of studies are legal license, corporate citizenship (stakeholders’ satisfaction), image and competitive advantage. The most basic one, the moral duty, is presented in many companies’ value statements, but realizing it is still challenging. Figure 4 illustrates the arguments for responsible business, all of which will be discussed in this chapter.

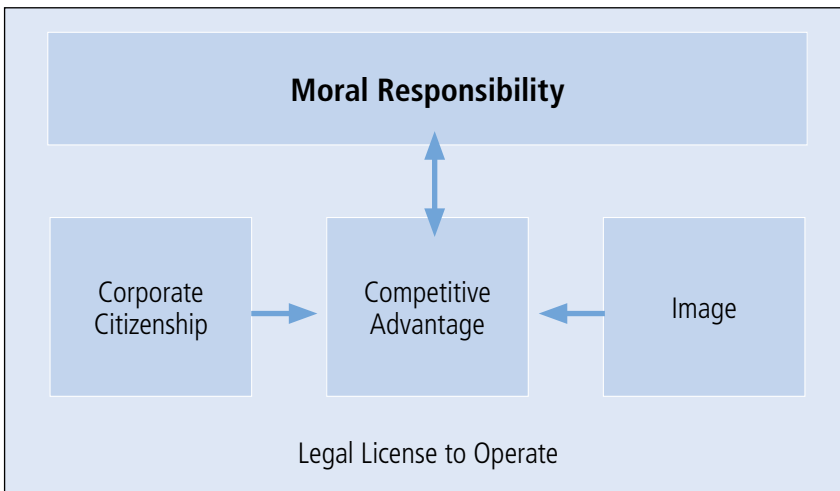


Figure 4. Rationale for responsible business.

The reasons for managing the environmental impacts of the company have traditionally been **compliance to legislation** (Lash & Wellington 2007). Based on governmental actions, CO₂ emissions will be increasingly regulated and priced – and these regulations will affect all companies. Government regulations are the minimum level companies have to cope with in climate change (Kolk & Pinkse 2004). Operating in accordance with governmental regulations and paying taxes gives companies “legal license to operate”.

Seeking stakeholder satisfaction in relation to sustainable development is often called “**corporate citizenship**”. In addition to authorities, also other stakeholders are interested in companies’ activities with respect to climate change. For example, investors are demanding more disclosure from companies. The Carbon Disclosure Project, a coalition of institutional investors representing more than €31 trillion in assets, annually request

information from large multinational companies about their climate-risk positioning. The reports of the Carbon Disclosure Project indicate that not only is the awareness of climate change increasing, but also the implementation of best practices to manage climate change is getting more popular (Lash & Wellington 2007).

Consumers as stakeholders are a strong market force. For instance, the demand for environmentally friendly products is reaching new records as consumers are taking the issue with increasing seriousness. Markets thus reward companies for their active efforts (Wahba 2008). A good example comes from the automobile industry. It is not only due to governmental regulations that an increasing number of car manufacturers are launching fuel efficient hybrid cars – it is because consumers are demanding them. “Green” consumption is therefore a strong signal for companies to strive for corporate “greening”.

By seeking to satisfy stakeholders’ expectations leads to companies giving the primary control of their climate-policies to outsiders (Porter & Kramer 2006). Stakeholders’ views are undoubtedly important, but they can never fully understand (nor are they interested in) a company’s capability, competitive positioning or the trade-offs it must make. Neither do they necessarily signify the importance of the decisions either from company perspective or from a climate change perspective.

A good **image** is essential for a company. The image of the company is a result of the interpretation of a wide group of stakeholders. Non-governmental organisations’ campaigns and the media’s continuous reports about a company’s contribution to climate change have an effect on the company’s image– and thus on the competitive advantage of the company. From an image point of view, it is important that company public relations, media campaigns and reports are not hyped up to satisfy the market, but are in accordance with the company’s real actions. Falsified information can easily turn against a company’s reputation with disastrous consequences.

Creating **competitive advantage** is a key aim of any company. According to recent studies, climate change strategies can offer companies several opportunities for competitive advantage, revenue increase and at the same time result in responsible solutions from a climate perspective (Lash & Wellington 2007; Porter & Reinhardt 2007; Funk 2003). Climate strategies can even lead to a wide range of new business opportunities as the markets for low-carbon goods and services expand (Porter 2007; Gore 2006; Stern 2006). Successful examples are the creation of climate-friendly products (hybrid cars), leading the restructuring of the industry (some companies in traditional energy production) or innovation of new

business solutions in the activities affected by climate change (insurance industry).

Stora-Enso is an example of a company in which sustainable development is seen as an opportunity for competitive advantage. It has been identified as one of the key success factors in the group's strategy: "Stora Enso aims at superior performance and image in the area of sustainability. To succeed in this, we need to ensure that we build accountability into the way we actually work, thus creating long-term value on an economically, socially, and environmentally sustainable basis. We will do this by being transparent, and open to dialogue with our stakeholders." (<http://www.storaenso.com>, visited 15.8.08)

True sustainable development is impossible without a moral commitment of all sectors in society, including political decision makers, companies and other organizations as well as individual citizens. In this article, responsible business was defined within the framework of sustainable development, which also means that the **moral commitment** should be one of its backbones. It is a fact that people are getting more worried about climate change and are now more prepared than any time before to make pro-climate sacrifices. These same people are working in companies. When climate-responsible strategy making starts from genuine moral commitment, it means a positive attitude and an innovative atmosphere, which at its best can create totally new ways to do business. The crucial difficulty in moral commitment is the time perspective of a company. In most companies, the management operates in the confines of a quartile economy in order to meet its own and the owners' requirements for economic performance. This is why companies maximize the economic results at the cost of social and ecological results.

Moral commitment should not be seen as an obstacle for productivity or competitiveness, but as an opportunity. There are several examples of companies that integrate a moral commitment into their business and enact their value statements and moral responsibility through their core business activities. An example of such a company is Globe Hope (<http://www.globehope.com>, visited 15.6.08). Globe Hope is a Finnish based design company, with all products produced from recycled materials. The company's starting point was the growing worry about the increasing amount of waste in the world. The strategic idea was to produce products that are in harmony with sustainable development and at the same time are aesthetically pleasing. Having now been in business only for six years, the idealistic head of the company, Mrs. Seija Lukkala, can honestly say that the chosen strategy was the right one, supported by the fact that the products of the company are exported to more than ten countries.

5

A Climate-Responsible Operating Mode

■ Competitive advantage and responsibility can not be realized without sound management. In this chapter I will define a brief management outline of establishing a climate-responsible operating mode into company practice. In this mode, responsibility is not seen as an obstacle for competitive advantage, but as an opportunity.

Managing any company at all hierarchical levels involves three inter-related activities: Strategy involves defining the future target status of a company in terms of its competitive advantage and growth, and the key actions needed in order to reach such a target. The management system is the infrastructure that enables strategy implementation and performance follow-up. Leadership means motivating, inspiring and committing people towards the set strategic direction. When the approach to strategy, management system and leadership is integrated in a systematic way, a company has the true possibility to gain competitive advantage. Figure 5 illustrates the elements of a systematic climate-responsible operating mode, which serves as the framework for this chapter.

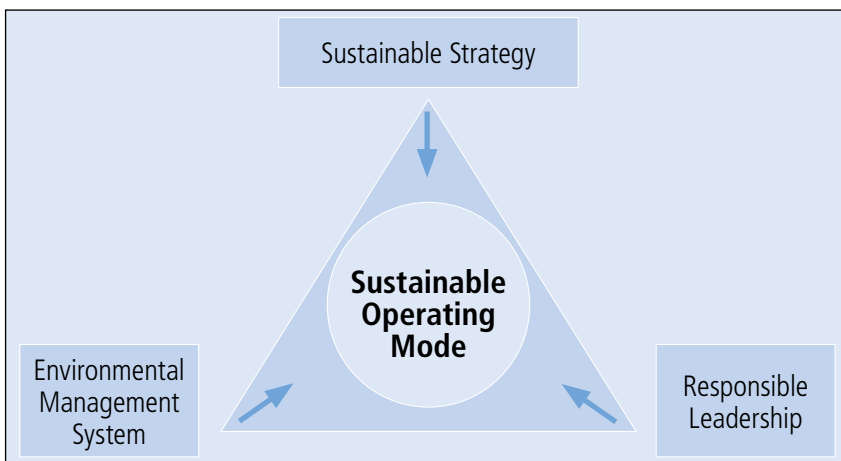


Figure 5. The framework for a climate responsible operating mode.

5.1 Building a climate-based strategy

Company response to climate change can be approached on a continuum of four categories: “indifferent,” “beginner,” “emerging” and “active” (Jeswani et al. 2008). In a responsible climate strategy, the focus should be on reaching the last stage (active), which means responding to climate change through integrating the economic and ecological dimension of sustainable development and building a generic rationale between them. The target of a climate responsible strategy can thus be defined as “achieving competitive advantage through reducing a company’s exposure to climate change and through creating new opportunities for profit making.”

Porter and Reinhardt (2007) propose strategy building in climate change to start from an “inside out” and “outside in” analysis. “Inside out” means that the company should understand the impacts of its activities on the climate. “Outside in” means how the changing climate may affect the business environment of the company, including market opportunities, physical risks and governmental regulations.

To make an **inside out -analysis** of a company’s CO₂ emissions, an accurate inventory of all CO₂ emissions is needed, including the emissions caused by the company itself (production, heating and electricity consumption in the offices, the emissions caused by traveling, etc.), as well as an inventory of the emissions caused by the suppliers. Companies that quantify and publish their CO₂ emissions send a clear signal that they recognize the importance of climate change both as a business risk, but also as an opportunity (Lash & Wellington 2007). An example of the inside out-approach is Kesko’s environmental impact analysis, which it has reported in its Corporate Responsibility Report 2007 (See figure 3).

Outside in -analysis involves, among other things, positioning the company in respect to its competitors at present and in the future. This gives valuable information for strategic decision making on how to move into a position of increased competitive advantage. An example of such positioning is a study conducted by Lash & Wellington (2007). The positioning is illustrated in figure 6.

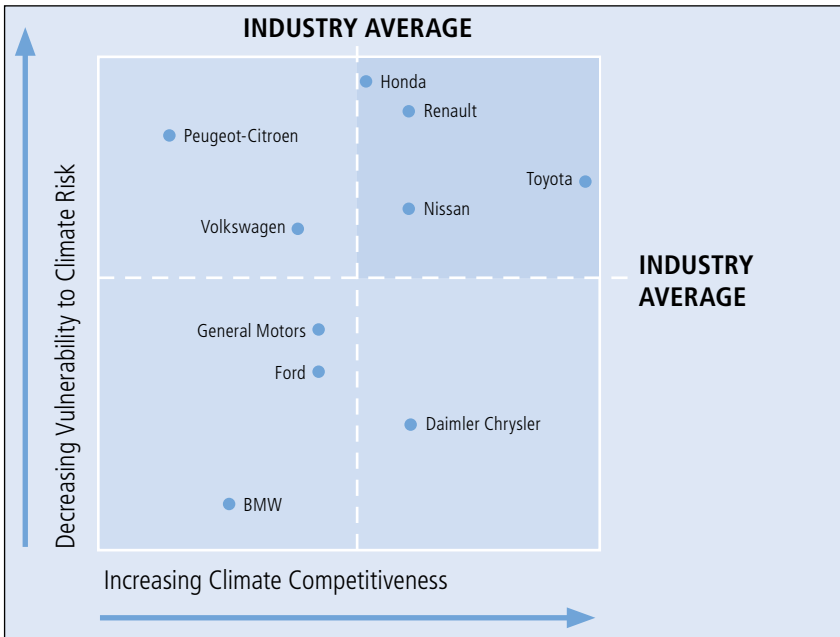


Figure 6. Plotting the climate competitiveness (adapted from Lash & Wellington 2007).

In 2003 Lash and Wellington mapped the climate competitiveness of the ten largest global car manufacturers in accordance with their vulnerability to climate risks and their ability to gain climate competitiveness. The analysis focused on the vulnerability of each car maker's current product line to further fuel-economy regulation by calculating the estimated costs per vehicle to meet new emission standards during the following decade. Additionally, the management of climate opportunities was analyzed. Using a zero to 100 scale, a quantitative assessment was made about each car maker's ability to commercialize, market and mass-produce vehicles using one or more low-carbon technologies. According to the research results, Honda and Toyota were best positioned to sell cars in a CO₂-constrained economy, due to the fact that their fleets were relatively fuel efficient and that they were ahead of their rivals in commercializing new technologies. Honda and Toyota exemplify companies that have chosen a challenging climate strategy, which also offers a competitive advantage.

Understanding the risks associated with the supply chain should be part of the outside-in value chain analysis. Car manufacturing, for instance, relies on steel, aluminium, glass, rubber, and plastics suppliers, all of which will be affected by ever increasing regulations, which means increasing costs and poorer availability. Food production industries, on the other

hand, are dependent on primary production. Due to climate change, the suitable physical production areas are changing.

The outside in -analysis should also include governmental policies, and thus it gives information about the changes in regulations to be expected. Furthermore, it should cover information about the operating environment such as weather conditions of the geographical areas where the company operates. For instance, companies operating in the tourism industry are generally highly dependent on climate change. Companies operating in the north (such as tourism firms in Lapland) benefit from the increasingly milder winters and thus the longer seasons, compared to their counterparts in the south.

Once the inside out and outside in -analysis is completed, the focus should turn to **strategy building**. Next, it is time to concentrate on minimizing CO₂ gases where it is of strategic importance and where competitive advantage can be reached. The central strategic question is: How to integrate the market opportunity, responsibility and competitive advantage? Responsibility in this context means that climate strategy should not be “green glossing” but efficient minimizing of CO₂ gases should be an equally important target of the strategy as is competitive advantage.

A company can choose a strategy to minimize its CO₂ impacts through conventional manners. By choosing such a strategy, business goes on “as usual”, only the impacts on the climate get smaller. It is possible to gain a competitive advantage by such a strategic choice, but it is more obvious that a company’s climate strategy has more potential when striving for a more challenging choice, such as through the development of new products and services.

5.2 Establishing a management system for strategy implementation

From an operative management point of view, the central question is: How can the company realize the responsible targets set in the strategy? In practice the answer is a workable management system and strong leadership.

The management system of the company is the infrastructure, which enables strategy implementation and performance follow-up. As a practical tool, climate responsible companies can use an environmental management system (EMS). Any management system includes target setting tools,

implementation procedures, organization structures, documentation and reporting systems, and reviewing as a basis for continuous development and improving the performance. Most EMS models are built on the so-called “Plan, Do, Check, Develop” model (Weiss & Bentlage 2006). The most widely used such standard is ISO 14001. The ISO 14001 standard is a generic standard, which can be applied to any organization.

The starting point of an EMS is, of course, the company strategy. With the help of an EMS, companies can launch the climate strategy into all their operations. Targets for the EMS are derived from the strategy. EMS implementation includes the creation of an organizational structure, nomination of key persons and creation of working procedures. It also includes education of the whole personnel. Communication, documentation and reporting give information about the performance; they can be used for developing further activities as they reveal which targets were reached and which not. A report can furthermore be used as a practical tool in communication with stakeholders.

A systematic approach which the EMS offers often leads to a more effective organization and a smoother information flow, as well as to the discovery and utilization of new “win-win-win” potential (Steger 2000). On the other hand, environmental management systems, such as ISO 14001 have been criticized as they have not always increased the commitment of the whole organization to strive for the responsible targets, but have lived their own bureaucratic life in the hands of a few responsible specialists (Rohweder 2004).

5.3 Committing personnel through leadership

Climate change cannot be affected without individual people working in companies recognizing their responsibility. In leadership the focus is on people. Unless employees are motivated, a company has no chances to successfully implement a responsible strategy. Leadership means committing, motivating and inspiring people towards the set strategic direction. The central questions are: Is sustainability an integrated part of the organizational culture? Are company strategy and climate friendliness reflected in the everyday work of the employees?

In this article climate responsible leadership is defined as “the managerial process bringing about behavioral changes that are attributable to a change in knowledge and values in accordance with the aims of sustainable development”. The role of leadership is to make responsible behavior pos-

sible and encourage and support employees toward pro-activity in climate change and other sustainable development related issues.

Rasmus (2001) surveyed environmentally proactive firms and revealed huge gaps between environmental strategies and the real-life practices of the firms. A climate strategy and a sound management system are alone not enough, but must absolutely be complemented with strong leadership to realize change. In addition, many managers have pointed out that leadership in implementing a responsible climate strategy is the key challenge. For example, Ikea's director of corporate communications, Mrs. Marianne Barner has written that Ikea takes climate change seriously and thus tries to minimise its climate impacts. She argues that there is a lot to do in areas like creating alternative transportation solutions for the delivery services or to increase the energy efficiency of the stores. However, so far, the biggest problem is communication among people as "it takes longer than you think and involves thousands of small steps to get everyone involved and committed." (Barner 2007.)

In most organizations change requires a corporate culture program at the level of individual human behavior (Siebenhuner & Arnold 2007; Zabel 2005; Welford 2000). The starting point for responsible behavior is knowledge and attitudes, which together can raise environmental sensitivity. Environmental sensitivity is the sum of motivational, attitudinal, knowledge and situational factors. (Rohweder 2007; Barr & Gilk 2005.) The challenge for leadership is to provide the necessary conditions. This means information, the supporting social atmosphere and circumstances to develop the attitudes and values towards responsible behavior (Koivisto 2008). Social atmosphere refers to management commitment to climate change responsible behavior and to setting a personal example. Management needs to show that sustainability related aspects are of importance in all company actions. In other words, leaders need to "walk the talk".

At the operational level, the responsibility for environmental issues should remain with the individual employees in line organizations (Bichta 2003; Porter & Kramer 1995). It should not be delegated to internal specialists, managers or external consultants. Leadership should therefore aim to empower employees and increase their decision making power with regard to climate change issues.

6

Conclusions

■ Companies have a vital role to play in the promotion of sustainable development. Environmental problems, especially climate change, are demanding challenges for companies including all their employees. Businesses need to recognize and acknowledge their contribution to fight climate change. Moving towards climate responsible business represents such a fundamental change in the values and visions of companies that it cannot be expected to occur overnight. As the chairman of the Board of Nokia and Royal Dutch Shell, Mr. Jorma Ollila has pointed out: “Climate Change is such a complicated problem, that all means to influence attitudes must be considered, even radical ways to achieve change.” (Helsingin Sanomat 12.2.2007)

The change for climate responsible business necessitates firstly an understanding of the true meaning of sustainable development and climate change as part of it. Secondly, getting committed and motivated to make a change happen. The motivators should not only be economic, but also moral commitment is needed. And thirdly, it is necessary to find a way to make a contribution, which means building a responsible operating mode, including strategy building, management and leadership.

References

- Barner, M. 2007. Be a Socially Responsible Corporation. *Harvard Business Review*, July – August, pp. 59–60.
- Barr, S. & Gilg, S. 2005. Conceptualizing and analyzing household attitudes and actions to a growing environmental problem. Development and application of a framework to guide local waste policy. *Applied geography*. Vol 25, pp. 226–247.
- Bichta, C. 2003. Corporate socially responsibility (CSR) practices in the context of Greek industry. *Corporate and social responsibility and environmental management*. Vol. 10:1, pp. 12–24.
- Dahlsrud, A. 2008. How Corporate Social Responsibility is Defined: An analysis of 37 definitions. *Corporate Social Responsibility and Environmental Management* Vol 15, no 1, pp. 1–14.
- Funk, K. 2003. Sustainability and Performance. *MIT Sloan Management Review* 44; 2, pp. 65–70.
- Gore, A. 2006. *An Inconvenient Truth. The planetary emergency of global warming and what can we do about it?* Rodale, New York.
- Jeswani, H., Jolley, J. & Handfield, R. 2008. How warm is the Corporate Response to Climate Change? Evidence from Pakistan and the UK. *Business Strategy and the Environment*, 17:1, pp. 46–61.
- Johansson, O., Lilius, M., Pesonen, J., Rantanen, J. & Tamminen, S. 2007. *Ilmastonmuutos ja yritykset. Kansainvälisten suomalaisyritysten näkemyksiä.* EVA. Taloustieto Oy, Helsinki.
- Kates, R., Parris, T. & Leiserowitz, A. 2005. What is sustainable development. Goals, indicators, values and practice. *Environment* 47; 3, pp. 10–21.
- Koivisto, M. 2008. *Factors influencing environmentally responsible behavior in the Finish Service sector.* Helsinki University of Technology, Doctoral Dissertations Series 2008/5. Espoo.
- Kolk, A. & Pinkse, J. 2004. Market strategies for climate change. *European management journal*. Vol. 22:3, pp. 304–314.
- Lash, J. & Wellington, F. 2007. Competitive advantage on a warming planet. *Harvard Business Review* March, pp. 95–102.
- Moon, J. 2007. The Contribution of Corporate Social Responsibility to Sustainable Development. *Sustainable Development*, Vol. 15: 5, pp. 296–307.
- Parkin, S. & Uren, F. 2003. Sustainable development: Understanding the Concept and Practical Challenge. *Proceedings of Institution of the Civil Engineers, Engineering Sustainability*, 156: 19–26.
- Pawlowski, A. 2008. How many Dimensions Does Sustainable Development have? *Sustainable Development* 16: 2, 81–90.
- Porter, M. & Kramer, M. 2006. *Strategy and Society. The Link Between Competitive Advantage and Corporate Social Responsibility.* *Harvard Business Review*. December, 1–14.
- Porter, M. & Reinhardt, L. 2007. *A Strategic Approach to Climate.* *Harvard Business Review* October, 22–26.

- Rasmus, C. 2001. Organizational support for employees: Encouraging creative ideas for environmental sustainability. *Californian management review*. Vol. 43:3, pp. 85–793.
- Rohweder, L. 2004. Yritysvastuu, kestäväää kehitystä organisaatiossa. WSOY, Porvoo.
- Rohweder, L. 2007. Education for Sustainable Development in Business Schools. In Kaivola, T. & Rohweder, L. (eds.) *Towards Sustainable Development in Higher Education – Reflections*. Ministry of Education, Finland 2007:6, pp. 74–79.
- Rouhinen, S. 2008. Koko valtiokonserni kestävään kehityksen asialle. *Ympäristö ja terveyst*, 5; 2–4.
- Ryden, L. 2007. In Order to Become Sustainable, the World Needs Education. In Kaivola, T. & Rohweder, L. (eds.) *Towards Sustainable Development in Higher Education – Reflections*. Ministry of Education, Finland 2007:6, 101–104.
- Senge, P., Lichtenstein, B., Kaeufer, K., Bradbury, H. & Karroll, J. 2007. Collaborating For Systemic Change. *MIT Sloan Management Review*, Winter 2007, 44–53.
- Siebenhuner, M. & Arnold, M. 2007. Organizational learning to Management Sustainable Development. *Business Strategy and the Environment* 16:5, 339–353.
- Steger, U. 2000. Environmental management system. Empirical evidence and further perspectives. *European management Journal*. Vol. 18:1, pp. 23–37.
- Stern, N. 2006. Stern review on the economics of climate change. http://www.hm-treasury.gov.uk/independent_reviews/stern_review_economics_climate_change/stern_review_report.cfm. Visited 15.8.2008.
- Vauhkonen, P. 2007. Responsibility Management – A Constructive Research about the Organisational Process. In Ketola, T. (edit.) *Paradigms of Corporate Sustainability*. Proceedings of Track 16, International Sustainable Development Research Conference 2007. Publications of University of Vaasa.
- Virtanen, A. & Rohweder, L. 2008. Sustainable development in Management Practices. In L. Rohweder & Virtanen, L. (eds.) *Learning for a sustainable future*. The Baltic University Press. Uppsala, pp 32–39.
- Wahba, H. 2008. Does the Market Value Corporate Environmental Responsibility? An Empirical Examination. *Corporate Social Responsibility and Environmental Management*, 15: 89–100.
- Weiss, P. & Bentlage, J. 2006. *Environmental Management Systems and Certification*. The Baltic University Press. Uppsala.
- Welford, R. 2000. *Corporate environmental management 3. Towards sustainable development*. Earthscan Publications Ltd, London, UK.
- World Commission on Environment and Development. 1987. *Brundtland Report*. www.un.org/esa/sustdev/csd.htm. Visited 15.7.2008.
- Zabel, J. 2005. A model of human behavior for sustainability. *International journal of social economics*. Vol. 32:8, pp. 717–735.
- Zbigniew, H. 2008. Sustainable Development: Premises, Understandings and Prospects. *Sustainable Development* Vol 16:2, pp. 73–80.