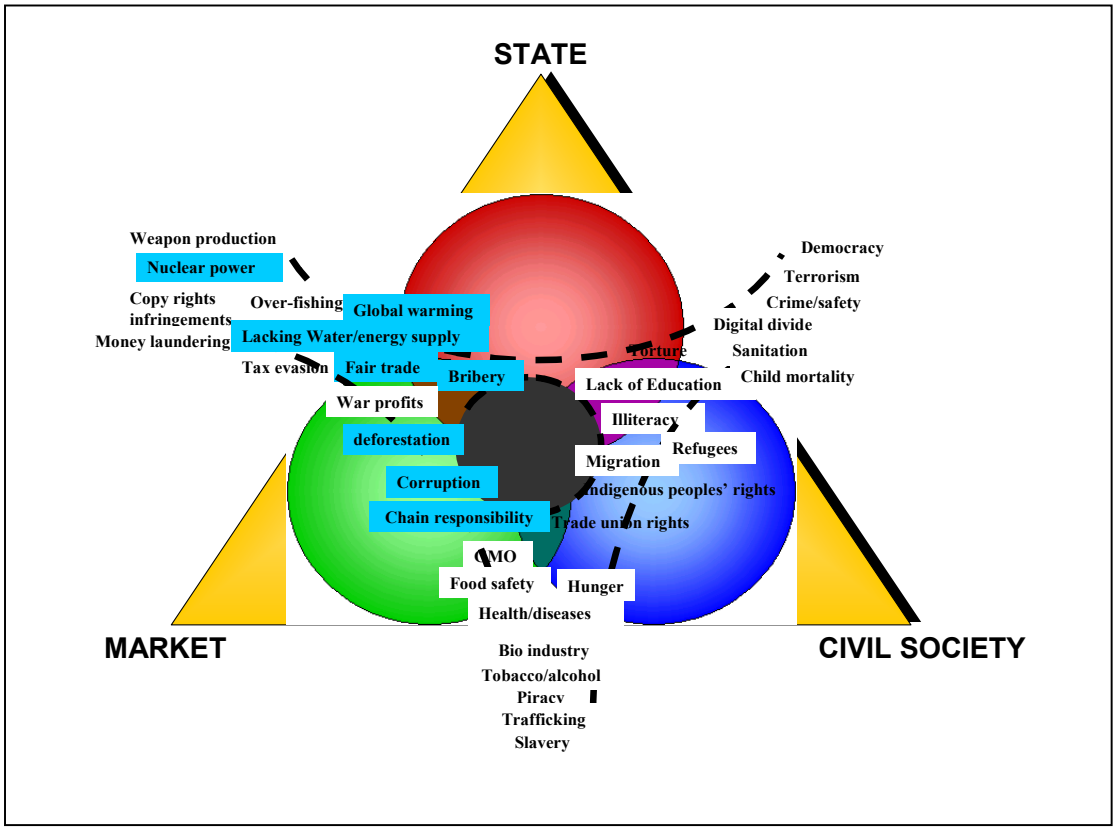
SUSTAINABILITY CHALLENGE # 2:

ECOLOGY

TRADING-OFF PRIVATE AND PUBLIC

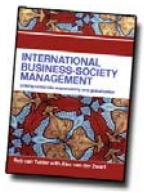
Key Ecological interface issues



1. An unequal distribution of ecological problems[1]

In particular along the private-public interface, macro-economic and generic rights are at stake, which are connected to the availability of and access to resources and public goods. The biggest controversies between firms and governments have developed over assigning

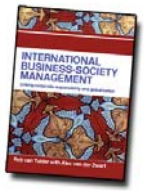
[1] This issue dossier was written by Rob van Tulder. It elaborates one theme that has been addressed in chapter 10 of the book (on 'The Stakes – Firms part of the problem or part of the Solution'). References in the text to Figures, Chapters and Tables, refer to the original book "International Business-Society Management" (Van Tulder with Van der Zwart, 2006). The dossier is intended to illustrate how this particular issue can be approached by both scientists and practitioners. Last updated: March 2006.



responsibilities for ecological issues. The world faces an unequal distribution of pollution, energy and water supply, an imminent shortage of forests, fish and a (seemingly) universal problem of global warming. Ecological distribution problems often share a geographical dimension with costs and benefits, causes and consequences unequally spread over countries and regions. The geographical location of problems and solutions triggers a different trade-off between public and private interests, and between primary and secondary responsibilities. Whether important actors operate in (1) geographically detached or (2) geographically overlapping areas, influences the nature of the problem definition, which in turn influences the direction of possible solutions. In case of geographical detachment the analysis of the problem generally provides much less controversy than in case of overlapping responsibilities.

Geographical detachment between problem and solution exists in the case of deforestation. Deforestation involves the cutting down, burning, and damaging of forests. NASA's earth observatory and others assess that if the current rate of deforestation continues, the world's rain forests will completely vanish within eighty to one hundred years. Long before that date, however, global climate will be affected and the majority of plant and animal species will be eliminated. Rainforests contain sixty percent of the world's biodiversity (www.wrm.org). Many of the endangered species of the world are found in the rainforests. The loss of the rainforest – or the limitation to only small areas of land, often within the borders of a single country – also implies that potential scientific knowledge on medicines, sustenance sources, or on the evolution, will get lost. A report from the World Commission on Forests and Sustainable Development (WCFSD, 1999) suggested that the forests of the world have been exploited to the point of crisis and that major changes in global forest management strategies would be needed to avoid the devastation of tropical forests. The commission stated: 'the roots of the crisis are broad and deep and the solutions go well beyond the obligations and responsibilities of the forestry sector" (WCFSD, 1999: 30).

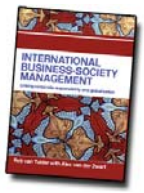
The clearing of forests is mostly done for agricultural purposes - grazing cattle, planting crops. Small farmers as well as large agricultural and food companies are primarily responsible for this. The FAO assesses that 90 per cent of deforestation is caused by what they call 'unsustainable agricultural practices'. Unsustainable agricultural practices at the moment largely take place in developing (tropical) countries. For most developed countries, deforestation to accommodate unsustainable agriculture and industrial development on their own territory has become nothing more than a historical anecdote, even when logging companies still are busy clearing some of the primary forests in developed countries like Canada (British Columbia). Commercial logging is a more direct cause of deforestation: cutting trees for sale as timber or pulp. Commercial logging is primarily aimed at markets in developed countries. Europe, the USA and Japan consume 60% of manufactured forest products (WCFSD, 1999). Illegal logging provides an associated problem. The World Bank (2002) estimated that illegal logging results in annual losses in developing countries of $10-15 billion.
So the problem of deforestation is largely (not completely) situated in developing countries and largely (not completely) caused by the consumption patterns of people and firms in developed countries and the poverty of people in developing countries. It is



widely acknowledged that local communities should be involved in creating sustainable forest management, but in practice this proofs extremely difficult if governments are not able to attack poverty more systematically. Addressing unsustainable agricultural practices for export crops (e.g. tropical rainforest in Brazil turned into large scale soy plantations) proofs complex as well. It involves changing the liberal world trade regime to include minimum standards on sustainable agriculture – provided institutes are capable of coming up with an undisputed definition, which has not yet been the case. The claim made by Greenpeace that the international patenting regime - in particular the TRIPS agreement under WTO - worsens the problem of deforestation (www.greenpeace.org), has met with great reservation. The international bargaining arena has difficulties in addressing the issue effectively. The WCFSD characterizes international negotiations over deforestation as "too many issues are discussed in too large a forum" (WCFSD, 1999). Illegal logging in this context offers a relatively simple problem. It is increasingly addressed by individual governments. Illegal timber trade only comprises around one tenth of a total global timber trade. So even if the illegal timber trade is effectively attacked by the consuming nations – which according to critics is not the case[2] – this provides a relatively small part of the solution to the deforestation problem.

Geographical overlap between problem and solution exists in most ecological issues involving pollution. The negative externalities of a polluting factory are clear to the people living in its direct vicinity. When the effects are more long term, even with geographical overlap, controversy rises. The most controversial global issue at this moment is arguably 'global warming'. It proofs difficult to establish the exact nature of the problem – let alone agree on the direction of solutions. The factual gap of the controversy is whether the emission of carbon dioxide and other man-produced pollutants contribute to the greenhouse effect, and to what extent this in turn leads to global warming, the melting of glaciers, the rise of seas and global disaster within a few decades. Some of the indicators are obvious. The 1990s were the warmest years of the past millennium. In one century (the 20th) the earth warmed up faster than in the whole previous millennium (Cf. World Watch, 2002). But the proof that global warming is the responsibility of man instead of an autonomous process of climate change, depends on a number of causal deductions and relatively complex computerized meteorological simulation models that each contain assumptions that are by definition open for scientific debate. Nevertheless a large majority of the relevant scientists – organized in the Intergovernmental Panel on Climate Change (IPCC) and the International Climate Change Taskforce (ICCT) – concludes the evidence to be very persuasive and not taking action extremely irresponsible.

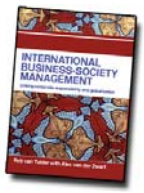
[2] According to the World Rainforest Movement (WRM): "both governments and industry in consuming nations have failed to take steps to eliminate illegal timber from the supply chain. By turning a blind eye, consuming nations are colluding with the corrupt timber bosses that provide the chainsaws. The G8 group of industrialized nations has made a series of public statements concerning the need for sustainable forest management, yet continues to import vast amounts of timber, much of it illegal at source. The major suppliers to the G8 are the countries suffering the highest rates of illegal logging. The US imported over $450 million worth of timber from Indonesia in 2000 and over $330 million worth of timber stolen at source in Indonesia in a single year" (http://www.wrm.org.uy/deforestation/indirect.html).



In 1997, a large number of countries agreed as well by signing the Kyoto treaty. The treaty is aimed at reducing CO2 emission in the developed countries - the allegedly greatest source of global warming. But, there are still critics that deny the statistical significance of many of the causalities, the assumed effects - let alone the effectiveness of the proposed solutions (Cf. Lomborg, 2001). The dispute concentrates on the validity of scientific arguments, on the appropriateness of the scenarios and measures taken, but also – and increasingly – revolves around assigning responsibilities for the greatest contributors to the problem. Who is to blame for the issue in the first place? First, the developed countries and their 'unsustainable' economic growth models based on large quantities of non-renewable and highly polluting energy resources can be considered prime responsible. A very unequal distribution of pollution exists in the world. Developed countries produce more than eighty percent of the world's pollution with around fifteen percent of the world's population. The American economy produces around 25% of all greenhouse gases. These figures are relatively undisputed.
In an effort to assigning more specific responsibilities, however, groups of firms or consumers are additionally picked out by specific lobby groups. The discussion becomes 'personal' and part and of a bargaining process which (intended or not) often obscures more than enlightens the discussion. In 2003, ExxonMobil's combined operations and production for instance was charged by Friends of the Earth International to have caused between 4.7 and 5.3 percent of all human-made carbon dioxide emissions since 1882 (the foundation of Standard Oil Trust, Exxon's predecessor). Partly in reply, the company in February 2004 issued a report arguing that by far the majority of emissions arise from consumer use of fuels (87 percent), with the remainder from petroleum industry operations (13 percent). Chapter 18 has elaborated this case further. Other studies put the prime blame with the 'military industrial complex' in general and with the US military in specific. The US military are the single largest consumer of fossil fuels and thus the single largest 'customer' responsible for emissions. Yet other studies put the prime responsibility with power firms. According to research of the World Wildlife Fund (Graus *et al*, 2004), the power sector is the single biggest emitter of greenhouse gases, responsible for 37% of CO2 emission from the burning of fossil fuels. Problem with these statements is that they all can be right at the same time. Consumer's like the military, power plants or individuals driving cars can use fuels that are produced and distributed by ExxonMobil. Assigning responsibilities to single actors in a long and international supply chain is never simple.

2. Strategic challenges: searching for ecological alternatives
How to create a sustainable corporate story for ecological issues? The strategic challenge for firms clearly depends on their position in the international supply chain, whether short-term as well as long-term consequences have to be taken into account depends on whether the industry focuses on renewable or non-renewable resources.

Renewable resources: managing short-term trade offs
In case of renewable resources, the strategic sustainability challenges primarily lie with the processing industry and the producers of products. Deforestation and illegal logging is a strategic problem for the logging and timber industry in the first place. Sustainable forestry is certainly in their long-term interest, the challenge is how to create short-term



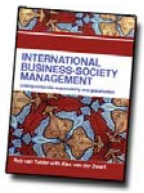
competition rules that allow for minimum sustainability standards that apply to all firms so deal with the problem of conditional morality. When they are confronted with unsustainable forestry due to poverty, they can try to offer small farmers or indigenous people a better contract. The strategic challenge is biggest when one usage of a particular areal (timber production) is substituted by a less sustainable but commercially more viable usage (large-scale agriculture). Deforestation of tropical forests for commercial agriculture – certainly in poor countries - can only be addressed if equally interesting commercial alternatives are offered by organisations from other sectors. Examples are: (1) logging firms that apply principles of good forest stewardship and employ local farmers that would otherwise engage in unsustainable agriculture, (2) ecological tourism firms, (3) NGOs buying areals of tropical forest on behalf of groups interested in flora and/or fauna diversity.

Creating sustainable and feasible alternatives to short-term devastation of natural resources, poses challenges to the participants that generally suffer from a lack of information and government regulation. Short-term gains can very often easily be replaced by bigger longer term gains. Killing the endangered species of Urang Utangs once, reaps short term benefits that are dwarfed by longer term benefits coming from ecological tourists. The same type of sustainability challenges applies to other firms that exploit renewable natural resources: in agriculture (sustainable agriculture) and fishery (sustainable fishery).

Non-renewable resources: managing longer term trade-offs

The ecological problems of non-renewable natural resources such as fossil fuels share a different dynamic. It is clear that the real strategic alternative for fossil fuels and the solution to the global warming problem lies in the diffusion of safe renewable energy sources such as solar and wind energy. But these alternatives are yet not really economically feasible. Global warming poses a strategic problem for consumers of fossil fuels in particular and relates to their consumption patterns. The pollution related to greenhouse gas emissions first affects themselves. But consumers are strongly influenced in their choice for particular energy sources by the prices of existing resources and the availability of alternatives. Even if a large group of consumers are prepared to limiting greenhouse gas emissions, this not necessarily will result in the appropriate behaviour. Prices are the result of oligopolistic competition within the industry, cartel agreements among producing countries (such as OPEC) and levies imposed upon fuel products by governments. In case governments are not taking their prime responsibility in preventing negative externalities from appearing or are not prepared to abandon economic growth in favour of longer term ecological sustainability, individual consumers will find it difficult to exert enough buying power to influence the strategies of firms.

Government action in creating a sustainable story on global warming has been rather ambiguous. The US (federal) administration became the most skeptical as to the danger of global warming and the least willing to support multi-lateral approaches like the 1997 Kyoto treaty. Liberal regimes in general are more inclined to adopt a voluntary approach to the issue, while expecting most from technological solutions. The basic reasoning then becomes as follows: to be able to invest in technological solutions, firms have to grow and reap profits. So short-term measures that increase cost and lower profits (certainly when aimed at such very vague issues like global warming) jeopardise economic growth



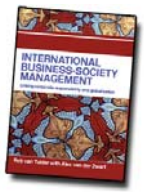
and thus limit the ability of firms to come up with future solutions. Individual US states as well as parts of the business community in the United States, in particular the insurance industry faced with claims by people suffering from greenhouse gases, are taking the threat more seriously (Financial Times, 4 February 2005). Major developing countries like China or India have not been forthcoming in supporting multi-lateral regulation either. Their main concern has also been not to frustrate their economic growth ambitions – even if their contribution to global warming per capita only amounts to less than one tenth of the average European or American. Transition economies like Russia only supported the Kyoto treaty after major political pressure by the western-European governments. The International Energy Agency expects a sixty percent growth of energy use until 2030 in Asian countries, which makes Europe for instance only responsible of eight percent of global C02 emissions and the bulk of future emissions located in non-Kyoto countries. As a result, criticism in Europe is mounting on the effectiveness of the approach chosen.

Critics also argue against the solution chosen. The Kyoto protocol is considered too limited, too late, and ineffective by making emission rights and standards tradable between countries. Critics claim that the production of energy intensive goods will be relocated to countries that have a less effective energy regime – so called 'pollution havens'. The degree to which the internationalisation of multinationals has really been triggered by the lower environmental cost in pollution havens has been disputed (Cf. Kolk, Van Tulder, 2004). It was found that multinationals tend to have stricter environmental rules than their host countries. Production relocation can thus be considered positive for the local ecology (and economy), although it lowers the pressure on polluting industries to really diminish their emissions. The Kyoto protocol generates an unintended perverse dimension to this mechanism. Instead of lowering emission in the home developed country directly, it further stimulates industries to relocate activities to developing countries – and by doing that earn additional emission rights. It helps developed countries to reach their target under the Kyoto protocol, without contributing to overall CO2 reduction. It probably also contributes to increased unemployment in the developed countries, which in turn inhibits sustainable growth.

3. Sustainable industry initiatives?

It seems unlikely that in the short run governments and consumers – with the instruments and bargaining arenas available to them - will come up with a relevant sustainable story on global warming. What about the producers of goods and services that contribute strongest to the CO2 emissions? Their strategic challenge is to offer economically feasible alternatives with lower emissions to consumers. In an overview study, Kolk and Pinkse (2005) identified a number of emergent strategies to the issue of climate change in a large sample of the Fortune Global 500. So-called 'cautious planners' and 'emergent planners' represented more than 2/3 of all firms. Cautious planners are extremely unspecific on the issue and re-active. Emergent planners have yet to implement a comprehensive climate strategy. The firms that were trying to develop a more pro-active stance, by trying to actively combine internal reduction targets with active emissions trading, represented the smallest group (4%) of all Fortune 500 companies analysed.

In assigning prime responsibility to the industries that are at the heart of the problem, three industries seem particularly relevant: the car industry, the oil industry and power



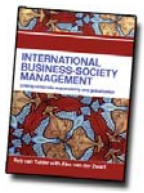
firms. First, the car industry has become supportive for putting global climate change on the bargaining agenda. Many car firms have been active in developing hybrid and/or hydrogen cars that have been less polluting and more fuel-efficient. Bottlenecks exist still in the full-swing commercialisation of these cars and the further technological development of critical parts such as fuel cells. Part of the problem is a lack of appropriate regulation in countries - the costs of negative externalities (pollution) are still not included in the price of petrol. Consumer preferences moved the car industry also in a more polluting direction. At the same time that car producers modestly marketed hybrid cars, the biggest sales success of the 21st century became four-wheel drive vehicles that are less fuel efficient and more polluting than previous generations. Should car manufacturers opt for a ban on four-wheel drive vehicles?

Secondly, major multinationals in the oil industry have also been moving toward – at least vocal - support for the Kyoto Protocol (Kolk, Levy, 2001). None of the oil majors moved out of oil though, but most engaged in efforts to actively search for more sustainable alternatives to fossil fuels. British Petroleum chose to reposition itself as a 'green company' (together with a major rebranding strategy). It is now the world's largest producer of solar energy systems. Shell created a $500 million renewable energy company. Texaco invested substantial resources in hydrogen-powered fuel cells. But ExxonMobil kept its main strategic orientation and is trying to improve petroleum manufacturing efficiency, as well as develop advanced vehicles and fuels together with automobile manufacturers. The strategy is legitimized by 'the' market. Of all the oil majors, the strategy of ExxonMobil is most intimately linked to its perceived value by investors. In 2004, it became the company with the highest market capitalisation (383 billion dollar). In comparison to the size of the (alleged) issue, the greening efforts of the oil majors still looks relatively small.

Finally, the Worldwide Life Fund (WWF) analyzed whether 72 of the world's leading power companies, producing around two thirds of all electricity generated in the OECD countries and Russia, had been trying to change to more renewable energy sources. European companies came out best, American and Japanese companies came out worst. None, however, scored adequate. Of the European companies only one fifth had a share of renewable energy in their fuel mix greater than two percent. According to the WWF, the power sector's contribution to climate change "threatens the very development that electricity promotes" (wwf.org, consulted February 2005). Strategically, it can thus be concluded that the industry, governments and consumers are 'stuck in the middle' in their approach towards major ecological issues like global warming and deforestation.

4. Operational challenges: developing concepts and trade marks

O*perational* challenges for creating a sustainable ecological corporate story revolve around ecological management models (Cf. Kolk, 2001). For multinationals the operational challenge entails 'aligning' the strategy and the structure of the company's environmental management systems (Van de Wateringen, 2005). An additionally number of conceptualisation and instrumental challenges exist that relate more directly to the issue at stake. Global warming and the negative externalities associated to an unsustainable use of both renewable and non-renewable resources are difficult to quantify. But, various interesting concepts and initiatives have matured. The concept of *'ecological footprint'* is such an effort. By mapping the ecological footprint of particular

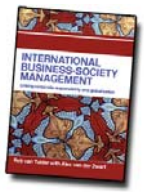


production chains, it becomes possible for consumers to form an opinion on its sustainability. Research of the UNESCO for instance focussed on the amounts of water necessary to produce goods and services that are consumed in developed countries. One cup of coffee takes 140 litres of water to produce. One hamburger requires 2400 litres of water, whereas producing a cotton shirt requires more than 4000 litres of water (www.waterfootprint.org). This operational concept shows that the unequal distribution of water over the world, including the sanitary and health problems associated to the lack of clean water, is strongly influenced by the nature of the production system.

Other ecological initiatives enabling critical *consumers* to become better accountable for their individual behaviour, have developed in air travel. *Treesfortravel* (www.treesfortravel.nl) and *Greenseat* (www.greenseat.com) are non-profit foundations that sells certificates to travellers that plants new forests, to compensate within one year for the greenhouse gases that result from travelling by airplane. The measure is based on research of the Dutch National Institute for Health and Environment that has established the exact volume of new trees necessary to compensate for a specific quantity of greenhouse gases released for travelling from place A to B. This initiative – and a rapidly growing number of related initiatives - links the problem of deforestation to that of global warming in a very practical manner.

The second operational challenge entails labeling and certification. The labeling of products is primarily aimed at the consumers of particular products. It contains a large number of practical and regulatory problems (see chapter 14). Ecological issues have triggered a wealth of labeling and certification schemes. A very broad and difficult to quantify problem as global warming, however, is difficult to catch in a label. But a more concrete problem like deforestation is easier to communicate. One of the most successful and most international initiatives has consequently become the Forest Stewardship council (FSC) trademark – a check and tree symbol. The FSC provides standard setting, trademark assurance and accreditation services for companies and organizations interested in responsible forestry. The trademark should enable customers to recognize responsible forestry products in the store. Major retailers in Europe, North America, South America and Japan have adopted FSC certification. FSC claims that since its foundation in 1993 "48 million hectares in more than 60 countries have been certified according to FSC standards while several thousand products are produced using FSC certified wood and carrying the FSC trademark." (www.fsc.org). In comparison: around 2000, more than 12 million hectares of forests were cleared and this volume is still growing. So, the FSC trademark covers yet a relatively small – but not unsubstantial – part of the deforestation problem. Other NGOs still have doubts whether FSC presents the right approach.[3]

[3] The WRM, an influential NGO dealing with deforestation: "Although many NGOs believe that certification of wood and other forest products is a good idea, there are a number of doubts about whether the actual process is moving in the right direction. The issue has resulted in confrontations between environmental organizations in countries such as Brazil, where some NGOs are working hard to convince logging companies to move into Forest Stewardship Council (FSC) certification, while other NGOs accuse those same NGOs of thereby promoting further forest destruction. There is also great controversy regarding the convenience of certifying forestry operations in countries such as Indonesia --where local peoples' land rights are unrecognized by the government-- and in Thailand, where most NGOs consider that there should be no certification because forests are already protected by an existing logging ban and that certification



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can undermine their efforts to protect forests." (wrm.org. consulted, february 2005). In 2005, the biggest market for illegal logging turned out to be China.