Climate Change

A Major Challenge and a Serious Threat to Enterprises

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1. Introduction

Society at large is confronted with global challenges that can cause economic losses and human tragedies to an extent so far unheard of. In this article, we will focus primarily on climate change.
According to the editorial board of this Quarterly,

> the vast majority of companies, where the major contribution towards a more sustainable future still has to be made, does not move at all. (…) Even within the front running companies the embedding of CSR[1] in existing corporate structures proves to be extremely vulnerable as well and does show high levels of fall-out.[2]

This reluctance towards CSR is clearly illustrated by the present state of affairs in the realm of climate change. This article aims to submit suggestions to overcome the deadlock position. It deals with the legal issues for enterprises that come along with climate change. Similar issues play a role in relation to, *e.g.*, climate change-related risks, such as geo-engineering.
A central feature of climate change is that, if we stick to business as usual, the consequences are largely irreversible.[3] The positive side is that we can still take measures in order to keep the otherwise grievous harm within financially bearable limits.
As a matter of fact, most governments are rather reluctant, or for political reasons not in a position, to agree on the bitterly needed steps to cut Greenhouse Gas (GHG) emissions significantly. So far, the focus has been arguably too much on the role of national states. After all, governments are not the only bodies with responsibilities in this field. Enterprises could also play a very important role within the realm of climate change for two reasons: first, to curb their own GHG emissions and, if possible, to attain significant reductions in industry at large; and secondly, and arguably even more importantly, by urging (their) governments to take a much more active stance, also in the international arena.
We realize that this is easier said than done. After all, the state of the law is still somewhat unclear as to the exact obligations of enterprises. To put it differently: so far, they do not and cannot know with sufficient precision what kind of measures they are legally bound to take. The *nature* of these measures varies *inter alia* according to the kind of activities of the enterprise. For most enterprises, the focus will be on reduction measures. For others, the emphasis should be on more indirect means such as "sustainable" investments.

2. The Road Ahead

We begin by providing a general overview of the threats of climate change for mankind and the threats and opportunities of climate change for enterprises. These are discussed in Section 3. A threat to enterprises lies in the field of liability law. Liability claims might become more relevant than one would think nowadays. Section 4 discusses some bases for the legal obligations regarding the prevention of the materialization of climate change risks. First, a basis could be found in human rights and the so-called Ruggie principles. Second, tort law could serve as a basis for the obligations. Some legal problems concerning wrongfulness come along with the application of tort law. Although liability claims for damages are becoming more relevant, one could doubt whether it is desirable to award such claims. Section 5 elaborates on potential defences that could be invoked by enterprises once they are faced with liability claims. The defences discussed in what follows are based on two aspects of causation and ad hoc mitigation of damages. Next to the enterprises' liability, there is a possibility of holding senior officers personally liable. Section 6 addresses this potential senior officer liability.
Under the current state of the law there still exists uncertainty as to the question of what the precise legal obligation of enterprises are. Section 7 focuses on the implications of this legal uncertainty and discusses various ways in which enterprises could deal with this legal uncertainty. It is argued that an active stance, in cooper-

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1. Corporate social responsibility.
2. Frequently Asked Questions, <www.dovenschmidt.com/faq>.
3. We realize, of course, that climate change and, *e.g.*, geo-engineering are different, in that the former entails huge risks, according to the prevailing view, whereas this is still uncertain, or even unknown altogether, as to the latter.

ation with civil society and potential victims, is in the best interests of enterprises. With such an attitude, they could avoid or reduce threats and costs of liability claims once the risks of climate change have materialized.
Besides, given the legal and natural threats of climate change, a shift of paradigm is needed. Corporations cannot ignore the emerging focus on sustainability. Section 8 discusses the role that enterprises, shareholders, investors and supervisors could play in order to establish such a new paradigm. Before drawing our conclusions, in Section 9 some comments will be made on the difficulties in providing financial safety nets.

3. The Threats of Climate Change

3.1 The Threats to Mankind

"Greenhouse gases" are rapidly increasing in volume in the Earth's atmosphere, mainly because of the human consumption of fossil fuels. The cumulative effect of these gases is to increase average temperatures. This, in turn, will – soon – lead to the increased melting of snow and ice, widespread diseases such as malaria, rising sea levels, dramatic changes in precipitation and wind activity and, in the upshot, as is expected, enormous and largely detrimental changes to the amount of land that is suitable for agriculture and habitation.
Though the world's population at large will suffer serious consequences, the worst and most immediate problems are faced by the poorer parts of the world's population, in overpopulated areas along low-lying coastal regions. Many predominantly Asian and African countries (*i.e.* two billion people or so) are going to face a shortage of water or severe droughts or both.[4] The consequences that we are facing are of an unprecedented magnitude.

3.2 The Threats and Opportunities for Enterprises

Once the threats of climate change materialize, they will undoubtedly be translated into liability issues. This is already a trend, as is illustrated by the increasing litigation in the field of climate change,[5] in academic writing[6] and in the eagerness of a growing number of attorneys to exploit this new legal goldmine.
Much can still be done to prevent the materialization of the threats and, by the same token, the legal threats, particularly in regard to future emissions. Issues concerning liability for emissions in the past are somewhat more problematic. Experience from the past shows that activities that were once widely accepted may be labelled unlawful and sanctioned with liability when the activities turn out to be harmful and extensive losses *have* occurred. Asbestos may serve as an example. This underscores that a (pro) active stance is in the best interests of enterprises.

4. Bases for Legal Obligations

4.1 Human Rights

Academics increasingly argue that climate change is a human rights issue. In this respect, the right to life, health, food and culture come into play;[7] the right to water (which is important as droughts become more frequent or glaciers melt) is becoming a customary norm.[8]
In her annual report of 15 January 2005, the UN High Commissioner for Human Rights addressed the relationship between climate change and human rights:[9]

> the United Nations human rights treaties bodies all recognize the intrinsic link between the environment and the realization of a range of human rights, such as the right to life, to health, to food, to water, and to housing.[10]

She specifically mentions the impact of climate change on these and other rights (such as the right to life).[11] In his view there exists "broad agreement that climate change has generally negative effects on the realization of human rights". She subsequently deals with the question of whether this implies that "such effects can be qualified as human rights violations in a strict legal sense".
In a resolution of 26 March 2008 the UN Human Rights Council emphasized that

> climate change poses an immediate and far-reaching threat to people and communities around the world (…) [which] has implications for the full enjoyment of human rights.[12]

The Ruggie Principles (Guiding Principles on Business and Human Rights: Implementing the United Nations "Protect, Respect and Remedy" Framework) impose an obligation on enterprises to act in accordance with human rights. These Principles were endorsed by the UN Human Rights Council on 16 June 2011. Next to this, 44 governments adopted the OECD Guidelines for Multinational Enterprises on 25 May 2011. These

4. The consequences are unevenly divided. Some countries may, after all, benefit from climate change, if we would be indifferent to the adverse impact on part of their society.
5. See, *inter alia,* <www.law.columbia.edu/centers/climatechange/resources>.
6. We confine ourselves to the most important grounds. See for further elaboration: Spier 2012. See on this issue *inter alia*: Abate 2007, pp. 3-76; Faure & Nollkaemper 2007, pp. 123-179; Verheyen 2005; Culley 2002-2003, pp. 91; Grossman 2003, p. 1; Kravchenko 2008, p. 514; Long 2008, p. 177; Hsu <http://works.bepress.com/shi_ling_hsu/6>; Farber 2008, p. 377.
7. See also, for further references, the passionate contribution by Kravchenko 2010, pp. 44-65.
8. *Id.*, pp. 48-49.
9. United Nations, General Assembly, A/HRC/10/61.
10. P. 7 *supra* 18. See in more detail p. 22 nos 65 *et seq*.
11. P. 8 *et seq*.
12. Quoted by Kravchenko 2008, at p. 525. See also ILA report of the 74th conference 2010, pp. 394-395.

Guidelines contain the obligation to comply with internationally respected human rights. Although the legal status of these instruments is somewhat unclear, they foster the idea that enterprises have human rights *obligations*. If one accepts that climate change is a human rights issue, which is quite likely, it follows that companies have *legal* obligations to take certain measures. Human rights may serve as a legal basis for litigation if they refrain from taking the legally required steps. As already mentioned, there is still legal uncertainty as to the question of what exactly has to be done by enterprises; see Section 7 for an elaboration.

It should be noted that the Ruggie Principles stretch well beyond the enterprises' own activities. They speak of a requirement to avoid causing or contributing to adverse human rights impacts "through their own activities" and the obligation to "seek to prevent or mitigate adverse human rights impacts that are directly linked to their operations, products or services by their business relationships, even if they have not contributed to those impacts".[13]

4.2 National Tort Law (Wrongfulness)

Tort law could also serve as a basis for shaping the legal obligations of enterprises.

The first question that tort law has to address is the following: what is, in the given circumstances, proper conduct?[14] The European Principles on Tort Law elaborate on this topic as follows: the required conduct depends

> in particular, on the nature and the value of the protected interest involved, the dangerousness of the activity, the expertise to be expected of a person carrying it on, the foreseeability of the damage, the relationship between those involved, as well as the costs of precautionary or alternative methods.[15]

A similar approach is adopted in, for instance, the US,[16] Australia[17] and South Africa.[18]

4.2.1 Foreseeability, Proximity and Costs

Most, but not all, of the just mentioned criteria point in the direction of far-reaching obligations. With respect to climate change, particularly the interpretation of foreseeability, proximity and the costs issue play an important role. In view of the (decreasing) uncertainty about climate change risks, and the long tail of these risks, an important issue is whether or not the risks were sufficiently known or understood at the time of the emissions. In this respect, the International Commission of Jurists persuasively submits the view that in considering what a prudent company would have foreseen, the court will look at "objective evidence as to what kind of information was available to the company about the risk (…) from its own employees and consultants, the media and civil society". The decisive point is whether "a reasonable person in the company's shoes would have undertaken an inquiry as to the potential risks involved".[19]

As to proximity, it is at least open to debate whether there is a sufficient relationship (proximity) between, say, a German enterprise and the people of Bangladesh. Arguably even not between "the German people" and a German enterprise based on one single or perhaps a very few German locations.

Next to proximity, enterprises could harp on about the issue of the expenses to be incurred in order to reduce GHG emissions, arguing that doing this would amount to a very heavy burden. We tend to believe that the importance of this factor should not be overstretched. Given the magnitude and seriousness of the threats of climate change, the possibility that they will materialize if we stick to business as usual and the evil done in case of materialization, a certain financial backdrop is unlikely to be accepted as an "excuse" for refraining from taking the necessary steps.

5. Potential Defences: Two Issues of Causation and Ad Hoc Mitigation

Establishing liability for the losses brought about by climate change is fraught with difficulties. We address the two potentially most serious legal obstacles: two aspects of causation (the *condicio sine qua non* requirement and the attribution of damage) and ad hoc mitigation of damages. Next to these legal issues, the question arises whether *ex post* liability for damages caused by climate change is desirable.[20]

The effect of wrongful individual emissions by (almost) all states, and even more so by (almost) all major enterprises, is marginal.[21] This begs the question whether minimal causation (a contribution per enterprise of far below 1% of the global losses in the overwhelming majority of cases)[22] suffices for liability.[23] Opinions on this point are divided.[24] By way of example, the Commentary on Article 3:106 Principles of European Tort Law (PETL) may serve as a basis for an argument

13. See Principle 13.
14. See Van Dam 2006, pp. 189 *et seq*.
15. Art. 4:102 para. 1.
16. Dobbs 2000, Section 145.
17. Trindade & Cane 1999, p. 341 *et seq*.
18. Neethling, Potgieter & Visser, *Deliktereg* (6th ed.), pp. 36 *et seq*.
19. *Corporate Complicity & Legal Accountability, Volume 3 Civil Remedies*, International Commission of Jurists, Geneva 2008, pp. 17 and 18.
20. We do not address the so-called political argument, which originated in the US. This will be done in forthcoming publications. In short, the argument is particularly relevant if the legislator has not enacted rules on the obligations of enterprises. In such a scenario one could argue that it is a political issue to decide the extent of the required GHG reductions. In our submission, in such a scenario the *courts have to* interpret the law as it stands.
21. See for more details about the various ways of measuring wrongful emissions Spier, in Tichy 2007, pp. 69 *et seq*.
22. That is, the contribution of a single enterprise in relation to a specific loss is marginal.
23. The predominant view is that this is a causation and not a wrongfulness issue.
24. See for more details Winiger, Koziol, Koch & Zimmermann 2007, pp. 531 *et seq*.

against compensation.[25] The minimal causation defence can be invoked anyway by small emitters, such as private persons and small enterprises. It is open to debate whether the same holds true for major (multinational) enterprises and/or national states. A recent case (*Sienkiewicz v. Greif*[26]) decided by the Supreme Court of the UK may serve as an illustration of an answer in the affirmative. The victim had been exposed to asbestos. The defendant's exposure increased the asbestos exposure in the atmosphere by 18%. The defendant was held liable for the percentage of the increase. That would not be overly spectacular, were it not for the fact that the judgment is based on the assumption that the victim's "exposure to asbestos over her working life at Greif's factory increased the risk to which environmental exposure subjected her from 24 cases per million to 28.39 cases per million".[27] That is, the chance that a loss could be attributed to Greif is very, very marginal. If we would apply a similar reasoning in the field of climate change, the causation defence of most defendants may vanish into thin air.

Assuming that this defence could be successfully invoked in relation to claims for damages, this does not necessarily jeopardize *injunctive relief*. If the defence would also be an insurmountable hurdle for injunctive relief, the law could not come into play in relation to a "marginal" contribution to fatal damage to society at large. This would imply that the law could not serve as a vehicle to prevent the colossal losses that will occur if we do not change course. Such a position would be rather unbalanced if we bear in mind that courts often go out of their way to accommodate victims in quite a few – sometimes even trivial – cases.

Once the *condicio sine qua non* test is met, enterprises will face the question *to what extent* the losses caused by them have to be compensated. Once again, the Principles of European Tort Law may serve to illustrate how to deal with this question. Article 3:201 PETL concerns the "scope of liability". Whether and to what extent damage may be attributed to a liable person depends on a series of factors, such as the protective purpose of the violated rule and the foreseeability of the loss(es). In this context the proximity in time or space between the damaging activity and its consequences plays a role once again. If there would be room for damages at all, a restriction in time and space would be desirable. For example, a French medium-sized enterprise should not be required to compensate victims in, say, Mexico.

In several legal systems, such as Denmark, Finland, the Netherlands, Norway, Poland, Portugal, Spain and Sweden,[28] damages may be reduced in exceptional cases if, in the light of the financial situation of the parties, full compensation would be an oppressive burden. In that respect, factors such as the magnitude of the damage play a role. Once again, this vehicle could play a useful role in keeping liability within bearable limits, if liability for damages would be a starter.

5.1 Desirability of Damages

Besides the legal obstacles to liability, one could cast doubt on whether liability for damages is *desirable*, which is a matter of legal policy. In our submission, full-fledged liability for damages would be an oppressive burden for enterprises (and insurance companies). This may not necessarily be so in the short term, but in the longer term the aggregate losses will be so colossal that no company would be able to pay even its proportional share.[29] This could be avoided by liability caps, but these caps require a legal basis.[30] That is, legislative action on a *global* scale, which is not an overly realistic scenario.[31]

6. Liability of Senior Officers?

In an Addendum to his earlier mentioned report, Prof. Ruggie points to a clear trend towards a general requirement for directors to act in the company's best interests. According to the US report, this duty includes an oversight of risk management and a periodic review to prevent and detect any violation of the law, including human rights abuses.[32] If one accepts the view that climate change is also a human rights issue, then senior officers are required to urge the enterprise to take the necessary steps. As will be discussed in Section 7 below, the problem is that it is unclear what is meant by "necessary" steps. Therefore, in our view, senior officers can only be held personally liable in rather extreme scenarios, *i.e.* if it is beyond reasonable doubt that the corporation did not meet the legal standards and that the senior officer negligently failed to do his very utmost, within the scope of his responsibilities, to urge the enterprise to reduce its GHG emissions or, as the case may be, to take other appropriate actions.

Obviously, the personal liability of senior officers will be of little avail to victims, since the amount of losses will be much higher than the officers' assets. Yet, the threat of personal liability may be an appropriate vehicle to bring about the apparently needed change of mindset, as is illustrated by the quotation at the very beginning. As a matter of fact, this threat does not (yet) seem very effective, arguably, so far, because it is less credible. Hence other and more effective means should be explored. A sincere and conscientious application of CSR could play a very important role in attaining the goal of a more responsible and responsive position towards climate change. Yet, one should not overesti-

25. European Group on Tort Law, Principles of European Tort Law, Text and Commentary Art. 3:106 (Spier), pp. 58 and 59.
26. *Sienkiewicz v. Greif* (UK) Ltd., [2011] UKSC 10.
27. See per Lord Phillips *supra* 60.
28. *Text and Commentary Art. 10:401* (Moréteau), pp. 179 and 180.
29. See, *e.g.*, the earlier mentioned Stern Report.
30. One could draw inspiration from caps on liability for nuclear plants and in the field of transport, maritime and environmental law; see Sands 2013, pp. 904 *et seq*.
31. Caps by national states will bring some solace, of course, but they leave untouched potential full liability in other countries (where the enterprises may have subsidiaries and/or assets).
32. UN, General Assembly, A/HRC/17/31/Add2 of 23 May 2011, p. 15.

mate the importance of CSR, given that the boundaries and the concrete requirements are still not very clear.

7. How to Make the Legal Obligations Clear and Concrete

One of the core issues is that it is still unclear *how much* enterprises must cut their GHG emissions. In what follows, we will address various possible ways (for enterprises) to fill in these obligations, although some problems do emerge when taking these routes.

In a sense, global[33] *international* agreements would be the best way to attain this goal. *Realistically speaking*, this might probably be the worst solution for mankind. The interests of the countries around the globe diverge to such an extent that it seems almost impossible to get at the level of reductions needed to avoid passing the tipping point of an increase in global temperature by more than 2ºC. The outcome of the international negotiations since Kyoto is telling. Besides, the political support for the necessary reductions in vital countries, such as the US, is so limited that only small steps can be taken. Next to this, a global international agreement will likely contain abstract norms that need to be interpreted in order to make the enterprises' obligations sufficiently concrete. Thus, we would be going back to square one.

Theoretically, *national* legislators could fill the gap by enacting very specific and detailed legislation. This is fraught with difficulties, too. National legislators are to a certain extent bound by the rules of international law and human rights. National legislation may go *beyond* the requirements of the latter, but cannot impose a lower level of protection than international law requires. Given that these requirements are unclear, it is impossible to determine whether national provisions would or would not be more lenient for enterprises than international ones. Moreover, many enterprises have subsidiaries in other countries and/or are engaged in activities all over the globe. In turn, they face a wide range of applicable standards. If each national state would enact its own legislation, enterprises run the risk of being confronted with a series of varying standards that will make doing business rather complicated. An enterprise could solve this issue by complying with the rules with the highest level of protection for present and future generations. This would, we think, be in line with the spirit of CSR.

It is in the best interests of enterprises – and the world at large – to clarify what the obligations of enterprises are. In the meantime they cannot lean backwards. Given the magnitude of the climate change risks that are going to materialize if we allow things to happen, enterprises have an obligation to curb GHG emissions. Although the precise extent of the legally required reduction is unclear, it is quite obvious that enterprises cannot refrain from taking any action at all. Even without a proper understanding of the law, the very least they must do is to cut unnecessary emissions that can be avoided at low costs.

In order to get to the clarification of how much GHG emissions should be reduced, enterprises would be best advised to join forces with civil society and/or the most obvious classes of victims. In the spirit of social responsible behaviour, they could *jointly* seek declaratory relief, *i.e.* to ask the court to rule what the enterprises' obligations are. Moreover, by asking the court to formulate their obligations, they can also avoid liabilities, assuming that they will comply with the court's ruling. For example, if in 2011 a court orders a company to reduce its GHG emissions by 10% and law progresses over time, say by 2021, in such a way that the company had to reduce its emissions by 20% in 2011,[34] one could hardly imagine liability for damages for the difference of 10%. A different solution would clearly be contrary to legal certainty and the rule of law. After all, the corporation did comply with the court's order.

Consider a variation on this example: in 2011 a national court held that an enterprise had to reduce its GHG emissions by 10%, while a few years later it turns out that according to international or human rights law the court was mistaken. In such a scenario it is very unlikely that a company that complied with the ruling of a national court can be held liable in that country, unless it was quite obvious that the national court was mistaken.

Nonetheless, legal norms are dynamic. They change over time. It follows that once a norm has *clearly* changed, enterprises have to meet the new requirements. In that respect a declaratory judgment does not relieve enterprises from having to keep pace with the new insights. This submission is in line with the "race to the top" observed by UN Global Compact.[35]

8. A Shift of Paradigm

So far, it has proven extremely difficult to come to grips with climate change. Besides the legal problems, dealing with climate change also urges enterprises to focus on their corporate *social responsibility* in relation to the vulnerability of the "environment" in which they do business. Corporations cannot ignore the winds of change, *i.e.* the emerging focus on sustainability. A shift of corporate paradigm from a sole focus on the short-term goals and benefits for the enterprise to a focus on the place and influence of the enterprise's activities on society at large becomes desirable, if not imperative. In this

33. Regional agreements – *e.g.* in the EU context – would certainly be helpful, but they cannot solve the whole problem. After all, most multinational enterprises are engaged in world-wide activities which are not solely governed by regional rules.

34. That is, the law progresses over time with retroactive effect.

35. UN Global Compact, *Blueprint for Corporate Sustainability Leadership*, United Nations, 2010, p. 1.

respect the following issues come into play. First, as has already been discussed above, it is not unlikely that sticking to business as usual will lead to claims for damages.[36] Second, besides the issue of liability for damages, business as usual will end up in a financial catastrophe for the world and, by the same token, for the industry. The Stern Report[37] is telling, in this respect, concerning the financial doom that will emerge if we refrain from a significant cut in GHG emissions.

We realize, of course, that a unilateral change of course by one or a few enterprises is not an easy choice. After all, enterprises that embark on far-reaching reductions of GHG emissions, whilst their competitors stick to business as usual, may face a competitive backdrop.[38] In the longer term this backdrop may be rewarding if the competitors are driven out of business due to a series of claims, but few enterprises have such a long horizon. However, speculating on the long-term benefits is a risky exercise for two reasons. First, it is open to debate whether this liability risk for competitors that *abstain* from taking action will materialize. Second, and more importantly, the responsible corporations may be faced with a huge impact on their business and short-term profitability owing to the competitive disadvantage. This illustrates the tension between the old and the new paradigms. Below, we will focus on ways to get at the new paradigm without facing the aforementioned risks.

Shareholders and investors could play an important role. They should – and often have – a longer-term perspective. Many of them are pension funds or insurers. Their fiduciary duties urge them to focus on the longer term. If the worst comes to the worst, which is unavoidable if we do not change course, their assets will be greatly affected. Therefore, shareholders and investors have a clear interest in encouraging and, if need be, urging enterprises to abstain from pursuing short-term goals that would obviously have an adverse impact on their long-term ability to generate profits.[39]

The same largely holds true for the supervisors of pension funds, banks and insurers (major investors). They are in a perfect position and have to ensure that those under their supervision take their fiduciary responsibilities seriously. Supervisors could – and should – urge those under their supervision to refrain from investing in "unsustainable enterprises".[40]

Since national governments have proven to be rather ineffective in coping with climate change, strong and irresistible pressure is needed.[41] Supervisors (often independent national banks) and major investors are in a position to influence politicians and the decision-making process. More likely than not, pressure from these institutions will often be welcomed by politicians. It enables them to justify unpopular measures to the public (their voters). *Ideally speaking*, this could create a global level playing field. Reality will probably prove otherwise as it is far-fetched to assume that this kind of "pressure" will work around the globe. Even if a global level playing field may not be established in the near future, national and regional level playing fields are possible and useful.

9. Financial Safety Nets

Quite a few academics advocate financial solutions, such as insurance cover, to cope with the deleterious consequences of climate change. These consequences could be either liability for damages ("covered" by liability insurance) or personal injury and damage to property ("covered" by first party insurance).

As to liability insurance, it is in the laps of the gods whether liability risks will materialize; see above. But even if this would not be the case, enterprises have to reckon with massive and very expensive litigation. A Ceres' report of 2010 about the climate change perception reveals that over the past decade the insurance industry has become increasingly concerned about climate change risks to its corporate customers and about liability exposures stemming from damages associated with historical greenhouse emissions.[42] According to this report 22.4% of respondents in the industrial sector considered legal risks in this realm in the next ten years to be "very likely".[43]

The Royal Gazette (of Bermuda) may well be right in saying that climate change is "an underwriter's worst nightmare".[44] *The New York Times* has a point in observing that climate change claims echo "those in suits against the tobacco industry".[45] A parallel with the asbestos litigation is arguably even more striking. *The New York Times* quotes Michael Gerrard, an eminent expert and law professor at Columbia:

> They [the plaintiffs] lost the first [tobacco] cases; they kept trying new theories and they eventually won big.

In the short term, insuring against climate change related risks may, or may not, be an option: in the longer term insurers will face irresponsibly high risks in pro-

36. As discussed in Sections 4.2 and 5, it is not unlikely that these claims will be dismissed. Even in that case, litigation will generate substantial defence costs.
37. The economics of climate change.
38. Such a backdrop could be mitigated by competition law or international trade law.
39. See, *inter alia*, "Global Investor Statement on Climate Change: Reducing Risks, Seizing Opportunities & Closing the Climate Change Gap", November 2010.
40. In the short term, this may be a mirage. It is not unlikely that the number of truly "sustainable" corporations is insufficient for the enormous amounts to be invested.
41. The amount of pressure depends on the steps already taken.
42. *Climate Change Risk Perception and Management: A Survey of Risk Managers* 2010, p. 1. See also Munich Re, *13th International Liability Forum, Climate Change Litigation and Environmental Liability* 2009.
43. O.c., pp. 9 and 10.
44. 27 September 2010. *The Gazette* reports on a session of the International Reinsurance Summit.
45. 27 January 2010, "Courts as Battlefields in Climate Fights", <www.nytimes.com/2010/01/27/business/energy-environment/27/lawsuits.html?_r>.

viding this kind of coverage.[46] Early in 2011 Munich Re (one of the leading re-insurers) launched a press release stating that the total amount of climate change damage in 2010 is estimated at US$130 billion, of which US$37 billion was covered by insurance.[47] As to liability insurance, given the present state of climate change science, it may be difficult to prove a causal link between a specific loss and man-induced climate change. With respect to liability and first party insurance, for the time being, it seems difficult to assess the magnitude of the potential exposure. No doubt, this will change over time, leaving aside whether an insurer issuing just quoted messages could reasonably deny such a link. More importantly, the weather patterns seemingly change so rapidly – in line with IPCC predictions – that we may take it for granted that future losses may skyrocket.

A way to solve the just mentioned problem is to put a cap on the *overall* exposure of insurers in relation to either the amounts to be paid per year or per event. An example of such a cap can be found in the case of insurance for losses caused by acts of terrorism (*e.g.* in the Netherlands €1 billion per year or €75 million per insured location; in Belgium €1 billion). There are two ways to introduce such a cap: by means of the terms and conditions of the insurance contract or by law. The latter is much safer for insurers as it gives less leeway for courts to interpret (or, for practical purposes, to remove) the cap. In this respect, insurers (should) have learnt their lesson from the hostile reception to loss occurrence and claims-made policies in quite a few courts in various countries.[48]

10. Conclusion

If we do not change course, our future looks grim. Although we realize fairly well that such a position is harsh for victims, damages are not a realistic option. If we cannot come to grips with climate change, the losses will be too colossal.

The same holds true for insurance. It may offer a solution in the short term. In the longer term the risks and the losses are of such a magnitude that they go well beyond the insurable.

A potential solution might be to put caps on liability or on insurance coverage for aggregate losses. Caps may save enterprises, but they are to the detriment of victims. The "first" victims may get compensation. In the somewhat longer term, most will be left empty-handed as the losses will grossly exceed the caps. In that scenario it should at least be clear how to divide the limited means available for victims.

Leaving millions and, as time progresses, billions of people (present and future) uncompensated is not an appealing option. Over the centuries, law has developed to accommodate victims. Most cases are about small-scale evil, if not injustice done to single persons. It cannot be true that the law is only about misery to individuals and cannot bring solace if the future of humanity is at stake.

The gist is that the materialization of climate change *must* be *avoided*. To some extent one can appreciate that enterprises are unaware of their obligations. The best way forward is that they, together with NGOs, civil society and classes of potential victims, seek declaratory relief as soon as is practical. Thus, they could contribute to the seriously needed prevention of unnecessary climate disasters.

A few corporations may feel tempted to lean backwards. They would be mistaken. Although the state of the law is not (yet) overly clear, it would be belabouring the obvious to repeat that enterprises should curb unnecessary GHG emissions that they could easily avoid. If they do not do so, they or their senior officers or both may face the force of the sword of the law, and not necessarily only private law.

46. We do not focus on "innocent" and useful coverage, such as coverage for low carbon power installations. If coverage could be terminated each year and would be very precise, the risks may be manageable, even in the longer term. But if the massive adverse effects are going to materialize, premiums will be so high that few will be able (and willing) to pay them.
47. 3 January 2011.
48. See, *inter alia*, M.A. Clarke, *The Law of Insurance Contracts* Section 17-4A-C and R.H. Jery, II, *Understanding Insurance Law* Sections 62 and 65 b and e.

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