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Safe and sorry?

From the Risk Society to the Anxiety Society
via the Precautionary Principle

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Abstract

The precautionary principle is a juridical version of the common sense notion of “better safe than sorry”. It may well be the most innovative and noteworthy new concept in environmental policy over the last twenty years, but I would also say it may well be one of the most dangerous, irresponsible and arbitrary guiding rules. It was first adopted in environmental law but has now spread to other areas and the European Commission states; “[.] *in practice, its scope is much wider* [.]” The purpose of this paper is to show the dangers of imposing the principle on other areas such as the areas of terrorism and immigration. The alternative costs of applying the principle are derogation of civil liberties, retrenchment of human rights, staggering democratic procedures, loss of lives and important technology and false security. Most importantly, however, is the cost of anxiety in society. We are now moving from a risk society to an anxiety society via the precautionary principle. The thesis will show how the precautionary principle, anxiety, risk perception and worst-case scenario are all linked together.

Key words: precautionary principle, worst-case scenario, risk perception, alternative costs, the anxiety society

Word count: 11 127

*Few things in life are certain – except,
of course, death and taxes.*
Benjamin Franklin 1706-1790

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1 Introduction

The precautionary principle recommends preventing possible harm to environmental and human health. It says that when there is an uncertainty, one should always err on the side of caution. The *New York Times Magazine's* year-end review of 2001 hailed it as revolutionary suggesting that it offered a superior approach to manage potential risks. It has been frequently used in domestic environmental- and international law over the last decades, but has now expanded in its area of usage. In both policy and academic settings the principle's scope and content has been widely interpreted, often in a biased manner to promote particular agendas (Steele 2006:29). Some claim that it "is being used selectively to produce extreme results in certain cases in an arbitrary and unprincipled manner" (Marchant & Mossman 2005:31).

If the precautionary principle is as bad as Marchant and Mossman states what will happen if it is applied on other areas as well? This paper is going to examine the alternative costs of the principle when applied on other policy areas in the European Union.

1.1 Purpose

In environmental policy-making the precautionary principle has gained great impact over the last decade, both internationally and at the European level. It is a risk-adverse approach to regulate risks in the face of scientific uncertainty. Nowadays it is frequently used in European policy-making as well as in the European Union courts. The principle has now spread to other policy-areas and the European Commission states "[...] *in practice*, its scope is much wider [...]" (Communication from the Commission February 2000).

The purpose of this paper is to show the dangers of the precautionary principle in other policy-areas than environment, human, animal or planet health. In doing so, I wish for *more precaution in applying* the precautionary principle in European law and policy-making.

1.2 Problem

As stated above, the principle has now spread to other political areas in the European Union. The precautionary principle is being used in risk management such as the climate change, but it is also currently being used in other areas where risk analysis and management is on the agenda.¹ The use of the principle in environmental law has spread to also include areas concerning the fight against terrorism and the immigration issues that is facing the Union today. **What are the risks of applying the precautionary principle on areas other than environmental law, and more specifically on the fight against terrorism and immigration?**

1.3 Method and material

The paper is a critical analysis of the precautionary principle and an eye-opener of the otherwise so popular principle. It is also a trend reconnaissance of the risk society pointing towards the anxiety society. The purpose is to critically show the problems with the principle and what consequences it could have in the future. It has no constructivist approach in that I do not put forward an alternative method. They already exist. The analysis is not about how it *should be* but how it *should not be*. The selection is strategic and I am aware of that an overall general conclusion cannot be drawn out of this small paper; more research is needed (Esaiasson *et al* 2004:176). However, there is a value in adding criticism into the debate.

As in almost all social science the aim is to search for and try to show the existence of the connection and influence between different phenomenon (*Ibid.* 2004:71). The causality is always a tricky business and that needs to be kept in mind when reading the thesis. What is highly believable is that there are several factors that affect the outcome in this case.

The thesis has an extensive list of literature, documents, scientific articles and surveys to strengthen my case. The material comes from both secondary and primary sources and is both theoretical and empirical. In the chapter about *Alternative costs of the precautionary principle* some of the information is from

¹ In the paper only the term “climate change” are being used since that is the term mainly used in international negotiations. It is also the term mostly being used by the European Union even if they think that the change only goes one way – towards a warmer climate system. (“Global warming” was seen too apocalyptic by the United States so they called for the term “climate change”. The “greenhouse effect” is also not being used as often anymore due to the recognition that it is a naturally occurring phenomenon (Lacy 2005:41).)

Statewatch.² I am aware of that the information can be biased, but it is balanced up with primary sources such as the Eurobarometer. It gives a good balance to the theoretical thesis I am running with the use of empirical data.

The reason for choosing immigration and terrorism is that it is two areas that are completely different at a first glance.³ The fight against terrorism and the risk management around it work with very strong signals. It is practically not anyone questioning whether we should fight terrorism or not. Immigration-policy is much more subtle. It has not the same strong consensus as the fight against terrorism has and it can therefore not work with the same strong signals. The free movement of goods, services, capital and labour has been important political goals ever since the Treaty of the European Community. In spite of that, the harmonisation of EU immigration policy is lagging behind due to controversies and resistance (Givens & Luedtke 2004:155).

The interesting part in choosing the two of them is to show that even though they are different in their nature, the consequences for using the precautionary principle leads to just as big impacts in one area as the other. They are also linked to each other since the fight against terrorism has pushed the security issue on top of the agenda in Europe and hence caused a securitization of migration control (den Boer 2005:6). “Migration is increasingly framed as a security problem, particularly in relation to terrorism, but also to large extent in relation to transnational organized crime” (den Boer 2005:8). It is also the areas where I see the greatest threats of using the principle.

The paper will look at the dangers in applying the precautionary principle in policy-making and an explanation of policies is therefore handy. A policy is a plan of action that is setting up the rules, or the framework, that decisions or actions should be taken within. They should be used as a guiding principle and decisions should be mainstreamed after them. Some policies falls under the jurisdiction of the European Union and some are carried out in partnership between the domestic governments and the EU (Sbragia in Bomberg & Stubb 2003:111). Both informal and informal institutions are important in the policy-making just as the informal norms and rules and the formal ones. The norms in the EU system are as important as the codified ones (Hix 2005:412). The EU system is not different from other systems in that its policy outcomes are the result of strategic interaction between actors. Politicians, bureaucrats and the public influence and affect each other. Therefore, both the public and the policy-makers will be accounted for in the paper.

² Statewatch is a non-profit making voluntary group monitoring the state and civil liberties in Europe, consisting of lawyers, academics, journalists, researcher and community activists. It was founded in 1991.

³ The term *immigration* in this thesis refers to the immigration from outside the borders of the European Union into one of the member states. It also refers to the immigration from one member state to another. The term *terrorism* refers to the use of violence and intimidation in the pursuit of political aims.

1.4 Delimitation and disposition

The scope of the analysis is to show the dangers and alternative costs of applying the precautionary principle in other areas than environmental policy. The paper will not look at *how* the principle has spread or to *which other* policy areas than the two chosen ones. I do not aim to come up with an alternative to the precautionary principle; it already exist, but better alternatives is still a challenge for future research. My purpose is to show the dangers of using it, so that it could be applied more restrictively.

Since the theory in some part is weaved in with the analysis the paper will start with explaining the precautionary principle, its definitions and its role in the European Union so it will be easier to follow the reasoning and discussion that will follow. Chapter 3 is a theory chapter about the risk society together with anxiety. Following chapter explains the notion of risks and worst-case scenarios and from this chapter onwards the theory is being weaved in with the analysis. Chapter 5 shows the alternative costs of the principle and the subsequent chapter is wrapping up the thesis with pointing at the importance of more precaution in applying the precautionary principle.

1.5 Related research

Today there is an extensive literature on the precautionary principle. It is being widely used in courts and legal documents and therefore a popular subject to write about. Most of the literature is juridical and technical but there are also academics that have been writing about the principle in philosophical terms, for example Per Sandin of the Royal Institute of Technology in Stockholm. One could also divide the literature after its advocates and after the ones who think less of the principle. Most of the writers are, however, in favour of the principle. Furthermore, the literature is in large extent about the environment, animal and human health. I have not found any literature that explicitly talks about the precautionary principle applied on other areas than the previous mentioned.

The risk society was introduced as a term by Ulrich Beck in 1992 and has thereafter been used frequently in sociological studies, but also in political science and other linked areas. Also worst-case scenario has an extensive literature within different academic areas. What has not been written about at all is the anxiety society. The term does not even seem to exist. I do not know why that is but it could be because it is a recent phenomenon. Neither have I found any literature that links the precautionary principle, worst-case scenarios and anxiety. I welcome more research on the area.

2 The Precautionary Principle

*The precautionary principle is not defined in the Treaty, which prescribes it only once – to protect the environment. But, **in practice**, its scope is much wider, and specifically where preliminary objective scientific evaluation, indicates that there are reasonable grounds for concern that the potentially dangerous effects on the **environment, human, animal or planet health** may be inconsistent with the high level of protection chosen for the Community.*

Commission of the European Communities, February 2000.

The precautionary principle is to be seen on a daily basis in our normal lives. It is a way of thinking and acting and our language is full of sayings such as “better safe than sorry”, “first, do no harm”, “an ounce of prevention is worth a pound of cure” and “a stitch in time saves nine”. Since the 70s it has also been written into legal documents and thus embodies the common sense idea that we should act to prevent harm (Martin 1997:264). It is a risk-adverse approach to regulate risks in the face of scientific uncertainty.

The principle is being used in risk analysis as a regulatory guideline in policy-making. Risk analysis consist of three parts; risk assessment, risk management and risk communication. Risk assessment is the first step in risk analysis. The quantitative and qualitative values of the risk are measured (as far as possible) and scientific advice and information is collected. Needless to say, the risk assessment is very important for the risk analysis and could also in some part be the trickiest one to get right. The first step is also the one that sets out the framework for further measures. Risk management follows risk assessment and consists of risk regulation and control. The principle is used in risk management when the risk assessment has been done and there are uncertainties present, which leads to reservations in the outcome of a policy or a decision.

The principle establishes moral rights to prevent damage, some theorists would say (*Ibid.* 1997:276). The moral right is with the principle now codified and hence something ‘real’ to refer to. However policy-makers in general, that does not have the principle in their legal documents, could also apply the principle. When the measures against a possible hazard are being taken even if there is not enough evidence to treat the existence of that risk, the precautionary principle is not necessarily a moral principle, “but a principle for decision making which can be justified either on moral or prudential grounds” (Sandin 2004:3).

The principle started its codified days in environmental law and is today a focal point for thinking about health, safety and the environment through Europe. The principle is being used both in binding and non-binding legal documents. It has also entered into debates about how to handle terrorism, about pre-emptive

wars and about the relationship between liberty and security (Sunstein 2005:3). Initially it was seen as a general guideline or policy, however it has turned out to be more than that. The principle has evolved into a binding legal rule in every jurisdiction in which it has been adopted (Marchant & Mossman 2005:13).

2.1 Definitions of the Precautionary Principle

To give the precautionary principle one definition is difficult since there are over twenty definitions of the principle and they are not even compatible with one another (Sunstein 2005:18). The one thing they do share is the idea of preventing harm. However, it is possible to distinguish two broad classes of definitions. First the strong version of the principle that says; take no actions unless you are sure it will do no harm. The second is a weak version that gives us; the lack of full scientific facts is not a justification for preventing an action that might be harmful (Morris in Morris 2002:1). Hence, it could be mandatory or justifiable to prevent potentially dangerous acts or products (Martin 1997:266). A strong interpretation of the precautionary principle has a higher cost of intervention than a weak one. If the principle would be used together with a cost-benefit analysis the weak precaution would therefore win in a majority of the cases. Therefore, the advocates for the strong version do not want a cost-benefit analysis to be involved in the risk analysis and management.

The threat dimension also varies from definition to definition, from “threats of serious or irreversible damage” to “possible threats”. When using the latter formulation it could be applied to a wider range of problems and areas (Marchant & Mossman 2005:11).

Per Sandin has detected four elements in the precautionary principle that is common for all of the definitions. It is the (1) dimension of threat, (2) the uncertainty dimension, (3) the dimension of action and the (4) command dimension. The dimensions would in an if-clause look like this; *If* there is (1) a threat, which is (2) uncertain, *then* (3) some kind of action (4) is mandatory (Sandin 2004:12).

One definition that is widely used is Raffensperger’s and Tickner’s definition; “When an activity raises threats of harm to human health or the environment, precautionary measures should be taken even if some cause and effect relationships are not established scientifically” (Goklany in Morris 2002:189). However, the most quoted version is the 1992 United Nation’s Rio Declaration on Environment and Development which states; “Where there are threats of serious and irreversible damage, lack of full scientific certainty shall not be used as a reason for postponing cost-effective measures to prevent environmental degradation” (DeSombre 2007:43).

In the Rio Declaration costs also need to be taken into consideration before making a decision. The precautionary measures need to be cost-effective according to the declaration. Other definitions such as the American Wingspread

Statement takes no cost considerations when simply stating that “[..] precautionary measures should be taken [..]”. Some would claim that the proportionality principle is embedded in the precautionary principle and hence, no cost-effective clause is needed. If the problem is small, so should the costs be and vice versa (Marchant & Mossman 2005:11).

The European Union lacks a definition in its legal text (the Maastricht Treaty). The Commission states in a communication “[..] it would be wrong to conclude that the absence of a definition has to lead to legal uncertainty. The Community authorities’ practical experience with the precautionary principle and its judicial review make it possible to get an even-better handle on the precautionary principle” (Communication from the Commission 2000:10).

2.2 The history of the precautionary principle

There have been several attempts to trace the origins of the precautionary principle but there is no clear answer. Some trace it back to passages in early Buddhist writings and others to the mid 19th century. A famous story about Dr. John Snow in the 1850s London says that he recommended to remove the handle of a water pump to prevent further spread of cholera even though it was not proven beyond reasonable doubt that cholera was transmitted via water (Sandin 2002: 2f).

In academic circles the principle could not be found until the 1950s were it was disguised as “safe minimum standard of conservation”. It was not until the 1980s it was established as an operational concept with 80s environmental disasters such as the Exxon Valdes oil spill catastrophe (Martin 1997:264f).

The principle was first codified in Germany in the 1970s as the *Vorsorgeprinzip* in the domestic environmental law and is today incorporated in over twenty international environmental agreements and treaties. The introduction of the principle in environmental law and policy-making stems from the various uncertainties surrounding the threats to the environment, the difficulties in predicting human behavior and the need to protect the environment from these threats. It was a fear that the ignorance towards environmental harm could have irreversible implications for the future and a more precautionary approach seemed as an easy way out of it. The new approach was a challenge to the traditional way of environmental policy-making since the latter one was based upon the belief that science could make sufficient accurate predictions about the human impact of any given human activity. The problem with the traditional approach was that when there were no sufficient scientific data on the identified problem/issue/area nothing was done (Trouwborst 2002:11).

2.3 The precautionary principle in the European Union

In 1992, the same year as the United Nations' Rio Declaration defined the precautionary principle, the European Union adopted the Maastricht Treaty where Article 174(2) states: "Community policy on the environment shall aim at a high level of protection taking into account the diversity of situations in the various regions of the Community. It shall be based on the precautionary principle and on the principles that preventive action should be taken, that environmental damage should as a priority be rectified at source and that the polluter should pay [...]". The Treaty mentions the principle without defining it. It is mentioned in the context of environmental law but as the quote on top of chapter 2 from the Commission in February 2000 says; the scope of the principle is in reality much wider than just covering environmental issues.

There is no doubt that the principle is a binding rule of law in the EU and the EU court's decisions. However there seem to be a great variety in the way the principle is looked upon in the different courts and cases. Some EU legal decisions treat the principle as a fundamental shift in the paradigm by which the EU manages risks, while others treat it as 'business as usual' (Marchant & Mossman 2005:37).

Between 1992 and 1999, twenty-seven resolutions of the European Parliament explicitly referred to the principle (Sunstein 2005:17). In 1999 the Council urged the Commission in one of their adopted resolutions "*to be in the future even more determined to be guided by the precautionary principle in preparing proposals for legislation and in its other consumer-related activities and develop as priority clear and effective guidelines for the application for this principle*" (Council Resolution June 28 1999). In February 2000 the Commission published a communication on the precautionary principle aiming to (1) outline the Commission's approach to using the precautionary principle, (2) establish Commission guidelines for applying it, (3) build a common understanding of how assess, appraise, manage and communicate risks that science is not yet able to evaluate fully and (4) avoid unwarranted resources to the precautionary principle as a disguised form of protectionism. Another aim was to bring more information to the ongoing debate on the principle, both internationally and within the Community (Communication from the Commission February 2000:3).

2.3.1 The lack of definition

Only in February 2004 the principle was cited in sixty decisions of the European courts.⁴ In roughly one third (14) of the cases the precautionary principle played a major role. In half of the fourteen cases (7) the court vote in favor of the party relying on the principle. In the cases where the principle played a minor role the court voted in favor of the PP-party in about seventy-five percent of the cases (Marchant & Mossman 2005:42).

In nearly none of the sixty cases the principle was defined by the EU courts. The courts are well aware of the lack of definition in the legislation and in all of the EU courts. Only the Court of First Instance in the case *Artegodan GmbH v. Commission* did an attempt to characterize it; “*the precautionary principle implies that where there is uncertainty as to the existence or extent of risks to human health, the institutions may take precautionary measures without having to wait until the reality and seriousness of those risks become fully apparent*” (*Ibid.* 2005:44).⁵

The regulators are giving both discretion and flexibility with the definition above. Some may even go as far as calling it a *carte blanche* for the regulators, meaning that they can decide arbitrary when to apply the principle and when not to. The Court of First Instance continue saying; “[...] *where scientific evaluation does make it possible to determine the existence of a risk with sufficient certainty, whether to have recourse to the protection chosen by the competent authority in the exercise of its discretion [...]. That choice must, however, comply with the principle that the protection to public health, safety and the environment is to take precedence over economic interests.*”⁶ The statement decreases the discretion and flexibility slightly since the decision now, as a minimum, must give greater weight to health than to economic interests (*Ibid.* 2005:44f).

⁴ The analysis only covers the opinions from the European Court of Justice, the Court of First Instance and the advocate generals. Courts of individual countries or specialized EU courts are not accounted for.

⁵ Case T-74/00, *Artegodan GmbH v. Commission*, 2002 E.C.R. 11-4945. Court of First Instance.

⁶ Case T-74/00, *Artegodan GmbH v. Commission*, 2002 E.C.R. 11-4945. Court of First Instance.

3 Risk society

Ulrich Beck introduced the term “risk society” in his book *Risk Society: Towards a New Modernity* (1992). The idea of the risk society is that it does not have more risks; instead it is about how a society is capable and organized in response to risks. We are “increasingly preoccupied with the future (and also with safety), which generates the notion of risks” (Giddens 1999:3). “Basically, one is no longer concerned with attaining something ‘good’, but rather with *preventing* the worst; [..]” (Beck 1992:49).

In order to move forward we need to make some distinctions. First a separation between *risk* and *hazard* or *danger* is needed. A risk society is not more hazardous than previous forms of social order. A society could be dangerous and facing many hazards without having the notion of risk (Giddens 1999:3). Second there are two types of risks; *manufactured risks* and *external risks*. The latter one is the risk of something striking the individual unexpectedly from the outside, for example earthquakes and typhoons. Manufactured risks are due to the human development. These risks provide us with little experience and we do not really know what the risks are. Neither do we know how to make risk analysis from calculations of probability tables (*Ibid.* 1999:4). Third, and last, risk society stems from two transformations which affects our lives today; *the end of nature* and *the end of tradition*. The former one suggests that there are very few, if any, aspects of the physical environment that is untouched by human intervention. A paradigm change has happened. For hundreds of years we feared the powers of nature. Anxiety about heavy rains, earthquakes and drought was a common state of mind. The change of paradigm came roughly about fifty years ago when we instead started worrying about what human actions could do to the nature and not the other way around.⁷ The transition marks the beginning of the risk society, which lives ‘after nature’. The end of tradition marks that we no longer live our lives as fate. We have the control over our own lives and do not have to do what our parents did or what is expected of us because of our sex. Beck calls this individualisation (*Ibid.* 1999:3ff).⁸

In a risk society the risks have been introduced by modernisation, they are manufactured risks. It has been called *reflexive modernisation*. In contrast to modernisation that is linear (and has a development that is serially, predictable and without deviation) the reflexive modernisation is when we have come to terms that the future may not hold all the answers. We have realised that our

⁷ We must remember that the paradigm has only occurred in the rich parts of the world where we have the time, money and food to think about things like pollution and climate change.

⁸ Also here we need to remember that it is only accountable for some parts of the modern world.

modern society has limits and holds contradictions (Giddens 1999:6). Reflexive modernisation is closely linked with the precautionary principle in risk management, and also sustainable development.

Manufactured risks are always linked to a value in some way or another in risk management. When it comes to environmental law the value that is often referred to is the survival of the eco system and in the long run the survival of mankind. It is often a complex value system that needs to be taken into account, and therefore tricky to track and unravel (*Ibid.* 1999:6f).

3.1 Responsibility

Hand in hand with manufactured risks comes responsibility. When human development creates risks it is our responsibility to make sure we can handle it. In the traditional society where threats were external policy-makers and politicians had a great responsibility but in our modern community another dimension has been added (Giddens 1999:7). Before the responsibility was to protect, today the responsibility is to protect and to *prevent*. This gives an ethical dimension to risk management, which also goes hand in hand with the precautionary principle.

Beck talks about *organised irresponsibility* which is risks that mankind have a part of but, or even is the author of, but where no one can be held accountable. We are all responsible, and so are our ancestors in some cases. Giddens predict that we will see more of cases with organised irresponsibility in the future and we must therefore learn how to cope with it (*Ibid.* 1999:8).

3.2 Anxiety and the anxious society

The step from a risk society to an anxiety society is not very far. Nowadays, social anxiety is embedded in a dominant discourse of risk, states Pijpers (Pijpers 2006:92).⁹

With the perception of risk comes *fear* and *anxiety* and a distinction between them is in its place. According to Freud: “*Anxiety* relates to the condition and ignores the object, whereas in the word *Fear* attention is focused on the object” (Bourke 2005:189). The word fear is being used to describe an immediate, objective and identifiable threat. It comes to us from the outside and could cause irrational panic. Anxiety, on the other hand, comes from within. It is a more

⁹ Roos Pijpers is Assistant Professor at the Radboud University Nijmegen in the Netherlands, with a research focus on migration.

generalized state of mind and it is hard to put the finger on what it is that bother us (*Ibid.* 2005:189). Consequently, anxiety is tighter linked with manufactured risks and fear with external risks, even if there is no clear cut between them.

Academics like Dutch Monica den Boer claims that anxiety seems to be one of the core drivers of European and domestic current politics even though it threatens to delay further European integration, a recent example is the rejection of the Constitutional Treaty (den Boer 2005:2). Characteristics of an anxiety society are that the perception of risk and anxiety is based on the relative loss of trust and security in a more globalized and anonymous world. Also, it is based on a reflective notion of a safety utopia where we could all live in peace and harmony (*Ibid.* 2005:3).

4 Risk perception

The perception of risk is not rational for most of us, as laymen we tend to get emotionally involved when trying to estimate risks. The precautionary principle fits perfectly in with the emotional estimation since it is not based on scientific evidence and statistical probabilities. Below is the background of how the precautionary principle could legitimate regulations of low-possibility risks (even though it is not laymen making policies).¹⁰

4.1 The (ir)rationality of risk perception and worst-case scenarios

The perception of risks shows systematic biases. It is well established that people tend to think that events are more likely to occur if they can recall an incident connected to it. The term of the phenomenon is *availability heuristic* (Sunstein 2002:33).¹¹ Whether people will buy insurance or not is greatly affected with previous experience. After a flooding, for example, insurances will rise remarkable and then decline steadily from that point as the memory gets more and more blurred. People also make large mistakes in estimating the number of deaths involved with different events and accidents. Causes of death which is highly publicized are significantly overestimated, these includes numbers of deaths in tornados, airplane accidents, cancer and homicides. In contrast, people underestimate the number of deaths from stroke, smoking, car driving, asthma and diabetes. This suggests that highly publicized events lead people to be remarkably fearful of statistically small risks (*Ibid.* 2002:34).

Four conclusions were established in the article *Rating the Risks* (1979) with Slovic *et al* about risk perception fallibility (Coppola 2005:3ff).¹²

¹⁰ See next chapters for the answer.

¹¹ See Tversky, Amos and Kahneman, Daniel 1982. *Judgement under uncertainty: Heuristic and Biases*. Cambridge: Cambridge University Press.

¹² Slovic, P., Fischhoff B. and Lichtenstein, S., 1979. "Rating the Risks" in *Environment*, Vol.21, No.3, pp. 14-20, 36-39.

1. Cognitive limitations, coupled with the anxieties generated by facing life as a gamble, cause uncertainty to be denied, risks to be distorted and statements of fact to be believed with unwarranted confidence.
2. Perceived risks are influenced (and sometimes biased) by the imaginability and memorability of the hazard. People may, therefore, not have valid perceptions even for familiar risks.
3. [Risk Management] Experts' risk perceptions correspond closely to statistical frequencies of death. Laypeople's risk perceptions [are] based in part on frequencies of death, but there [are] some striking discrepancies. It appears that for laypeople, the concept of risk includes qualitative aspects such as dread and the likelihood of a mishap being fatal. Laypeople's risk perceptions were also affected by catastrophic potential.
4. Disagreements about risk should not be expected to evaporate in the presence of 'evidence'. Definitive evidence, particularly about rare hazards, is difficult to obtain. Weaker information is likely to be interpreted in a way that reinforces existing beliefs.

Worst-case scenarios are therefore very powerful in that they create irrational thinking of risks. Governments and organizations such as the European Union need a set of tools to be able to take decisions and implement them. The toolbox differs from government to government and from organization to organization. What they all are looking for is smart tools that are both effective and inexpensive. A smart tool could also minimize the burden of the government itself and thus reduce the need for government planning and involvement (Sunstein 2002:6). In today's environmental politics, together with the terrorism- and immigration discourse, the language is loud and strong signals are sent out to the public. Harsh laws are being adopted and worst-case scenarios are being used as a way of drawing attention to the coming apocalypse. Disenchantment with deterrence is being used both as a strategy of conflict management and a theory of state behaviour (Lebow in Jarvis *et al.* 1985:203).

In the climate change and terrorism/immigrant discourse a worst-case scenario is often painted to play on the strings of human fear and anxiety. Media could be used as a weapon of mass hysteria, something that politicians and policy-makers are very well aware of. Politicians and other stakeholders who need to reach out with their message sometimes use worst-case scenario to get as big impact as possible. Media, elite actors and the general public are inevitable linked to each other in creating social anxiety (Pijpers 2006:94).

In the aftermath of the terror attack in New York 2001 the fear of terrorism rose dramatically in the European Union. In spring 2002 87% of the citizens in the EU15 feared an attack. It had gone down with 8% since fall the year before but was still exceptionally high (Eurobarometer 57, 2002:5). In the Eurobarometer 57 the explanation given for the high numbers is that the media was speculating in possible future attacks and that kept the fear and anxiety up (Eurobarometer 57, 2002:5).

4.2 Scientific uncertainty

The uncertainty of the climate change problem is both regarding the causality and the impacts. We know by know that the temperature is rising, that the polar ices are melting and that there are a larger number of nature catastrophes which impacts just gets bigger and bigger for every year that passes by. What we do not know with full scientific evidence yet is why this is happening, neither do we know what the long-term implications of climate change will be on the biosphere (Lacy 2005:34ff). Ulrich Beck has made a comment about the risk society where he says the “main question is how to take decisions under the conditions of manufactured uncertainty, where not only is the knowledge base incomplete, but more and better knowledge often means more uncertainty” (*Ibid.* 2005:34). Even though uncertainty may seem like a state that only could be better, it may not be the case. More scientific facts do not always lead to increasing certainty or security in the world but sometimes the opposite is possible. Technology and science create as many uncertainties as they dispel, and these cannot be simply solved with further research. The uncertainties created are *manufactures uncertainties*, which is linked with the manufactured risks. Karl Popper has shown that science does not produce proof, it only estimates the truth (Giddens 1999:1ff). The scientific facts we have today are all open to be revised and they most likely will be.

Where there is uncertainty there is always estimations. In a case study over Holland’s fear of mass immigration Roos Pijpers (2006) tries to show how the fear of mass immigration aroused and spread just before the new Eastern European countries joined the European Union in 2004. An estimation was being done by a Dutch daily current affairs television programme in October 2003 where they estimated about 30 000 labour immigrant coming to Holland from Poland at once after their entry. Afterwards the Liberal Conservatives (most notably the Minister of Finance), the Christian Democrats, Pim Fortuyn’s Party and the Socialist Party expressed their fear that the large number of immigrant workers would threat the welfare state, the Dutch cultural identity and the labour market (Pijpers 2006:100). The estimation had made an impact, even on the leaders.

When uncertainty is present it is impossible to calculate on the *probabilities* of the outcome. What you have is the *possibility* that something might occur. The precautionary principle therefore goes very well in hand with estimations of possibilities. The probability neglect could be used by governments and other to heighten or dampen public concerns over hazards. Interests groups such as environmentalist and terrorists are also using it to reach out with their message (Sunstein 2005:65).

4.2.1 Competing uncertainties

Scientific certainty is more an exception than a rule and therefore it is possible that several uncertainties need to be handled at the same time. In policy- and decision-making the uncertainties could be both in the input and the output with regard to the precautionary principle. So how do policy-makers do when the result could simultaneously lead to uncertain benefits and uncertain harms to the public and the environment? Different threats need to be prioritised different and a risk hierarchy must be set up. Goklany calls this *uncertainty criterion* (Goklany in Morris 2002:189f). Some would argue that human health always comes before environmental health, some would say that immediate threats should be taken care of first and so on. Nevertheless, precautionary measures under uncertainties are always based on values and opinions, as we have seen, and it is the politicians that need to do the policy-making in the end.

4.3 Consensus

After the climate meeting on Bali early December 2007 there is a wide consensus that something has to be done about the climate change, and that is quickly. Consensus should not be confused with full scientific evidence, which is not too unusual when it comes to the public's perception of risks. If a consensus exists, precautionary policies will be easier to adapt and implement and it is therefore of great interest in trying to reach it. A consensus can delude the public and its leaders into taken measures that should not have been taken otherwise.

As for the example above with the Dutch fear of mass immigration, a consensus was reached with all the political parties in that they should await for a clarifying report. It came off as a signal to the people that maybe mass immigration really was a threat to them. One would think that the Dutch people would be afraid of losing their jobs and income but there is no obvious connection between social anxieties and economic crises. The fear of mass immigration stretched beyond the fear of job loss and social benefits (Pijpers 2006:92).

5 Alternative costs of the Precautionary Principle

The precautionary principle is today a natural element in environmental risk analysis and policy-making in the European Union, but it is also being used in other areas. Below I will show the costs of using it in environmental politics but also the alternative costs when using it in the fight against terrorism and in the field of immigration issues. The costs are different from one area to another and they are also more or less severe in its effects. First, however, I will start with general criticism of the principle.

5.1 General criticism

The principle has been a target of much criticism and some of the objections are that the principle is (1) ill-defined, (2) absolutist, (3) value judgemental, (4) increases risk-taking and (5) marginalises science (Sandin 2005:21).

It is (1) ill-defined (and sometimes not defined at all) in most of the cases but some argue that it gives a flexibility that could actually be helpful in some risk management.¹³ Critics would say that the so-called flexibility makes the principle arbitrary and too dependent on value judgement. Case studies on the European Union have shown that when there is no definition to follow, the courts will be taken arbitrary decisions to obtain outcomes in favor for political or other reasons (Marchant & Mossman 2005:81f). The (2) absolutist-criticism is based on that the principle in some legal documents is being taken literally and prohibits *every* action, and thus offers no guidance at all. The specification of the threat could also be too wide and therefore encourage an absolutist reading (Holm 2006:186).¹⁴ The objection against the principle that it is (3) value judgemental is a fairly common and agreed one. As written in the chapter about competing uncertainties there is always a value dimension in the precautionary principle. It may not be wrong *per*

¹³ Like the European Commission did in their Communication (see quote in chapter 2.1).

¹⁴ For example the 1992 Convention on the Protection of the Marine Environment of the Baltic Sea, Article 3, subsection 2. “The Contracting Parties shall apply the precautionary principle, i.e., to take preventive measures when there is reason to assume that substances or energy introduced, directly or indirectly, in the marine environment may create hazards to human health, harm living resources and marine ecosystems, damage or interference with other legitimate uses of the sea even when there is no conclusive evidence of a causal relationship between inputs and their alleged effects.”

se but the problem is *who* is to decide what should be given priority and what is not. How arbitrary the principle is depends on its definition but if, for example, the threat-prerequisite says “possible threats” it gives a wide spectra of which decisions could be taken or not. Another disapproval of the precautionary principle is that it will lead to excessive precautions that (4) increase net risk due to risk-risk trade-offs. The net risks come from second-order effects such as delays in developing new effective technology that could help us cope with risks (Marchant & Mossman 2005:58). The principle has been invoked in what could be called excessive precautions. In Denmark it was invoked to ban Ocean Cranberry Juice since it contained too much vitamin C which could cause harm if heavily consumed and in France it was used to ban Redbull (an energy drink) since it could harm pregnant women if drinking too much (*Ibid.* 2005:18f). There is “always a trade-off between overregulation (*false positive*) and underregulation (*false negatives*) in ex ante regulation of uncertain risks” (*Ibid.* 2005:9). The (5) marginalization of science could not be said so much about, but the advocates for the principle argue that there is no absolute truth in science nonetheless so we might as well act in prevention.

One of the greater problems with the precautionary principle, however, is that it calculates on the *possibilities* and not the *probabilities* (Martin 1997:276). The probability that a terrorist attack would occur in Brussels is incredibly small, but there is a possibility. The probability that Sweden would have a mass-immigration of Polish workers taking jobs away from Swedes is also very small, but the possibility is likewise there. When using the precautionary principle the risk assessment is based on possibilities; we do not know what could happen but there is a possibility that the earth is heating up and that we all will die of it in the future, for example. The principle goes therefore very well together with the worst-case scenario. Probability neglect could be both at the individual level and at the state level (Sunstein 2005:65). Figures are often being used as if they held the truth, it is in the rhetoric of crisis. Scientific research has often been misquoted and abused in the past (Matthews in Morris 2002:274). In a crisis situation the government and other officials need to keep their head cool in order to make rational decisions that will gain the public in the best possible way. However, the precautionary principle gives the politicians a *carte blanche* and legitimate decisions that are not based on statistical calculations. Hence, because the principle says ‘better safe than sorry’ assessment could be based on beliefs and convictions. In risk analysis cost-benefit analysis is a frequently used tool, but with the use of the precautionary principle that tool is being replaced with a focus on possible negative effects. The balance between risks and benefits is being replaced by what Peterson would describe as pure pessimism (Peterson 2007:306).

Another dilemma with the principle is that it is not compatible with the principle of maximizing expected utility. In decision-theory maximizing expected utility is something that is endeavoured. It is therefore not desirable to use the precautionary principle when the probability and utility are known (*Ibid.* 2006:596).

5.2 Costs of today's climate change-policy

The EU has now decided to let all environmental policies presuppose that there is in fact a climate change leading to a warmer earth and that it is mainly due to human activity. The Directorate General (DG) Environment states that the “climate change is one of the greatest environmental, social and economic threats facing the planet” (DG Environment’s homepage). The Commissioner for Environment Stavros Dimas continues saying that “climate change caused by emissions of greenhouse gases is one of the gravest challenges facing humanity” (Dimas’ official webpage). The climate change issue has risen on the Union’s agenda and is today among the top topics being discussed both within the Community and internationally.

The climate change discourse and its political effects is a good example of how the precautionary principle works in practice. There is a great dose of uncertainty, both scientifically and politically, which makes it complicated. The political uncertainty intersects with scientific uncertainty. It has been said; “in environmental regulatory affairs we are confronted with data for which neither the level of precision nor the level of accuracy is particularly high” (DeSombre 2007:40).¹⁵ The precautionary principle is an important tool or effort to address environmental policy-making under conditions of uncertainty.

The use of the precautionary principle in environmental law and policy-making has been heavily discussed and the pros and cons have been weighted against each other. We do not know yet whether it was wise or not to use it, but the effects from using it in the environmental area differs from other areas in that the consequences may not be as severe. The worst thing that could happen is that it does not do anything good and the costs will increase as we try to stop the climate change. It could also be paralyzing and hinder creative and more effective solutions to the problem and/or how we could adapt and adjust to the climate change. The current climate policy could also give us a false security since we think that we could actually do something to stop the climate change. If we do as the global treaties say and listen to our leaders promoting a green future we will all be safe. Critics claim it would have been better if we got ourselves prepared for a climate change so we can handle it in the best possible way. Furthermore the principle could be used for economic gain and self-interest. It could be used as a way to legitimize trade protection but it is hard to prove the real reasons behind precautionary measures. What we do know is that the principle makes it possible to use precautionary measures without showing evidence of any sort other than the fear of harm in the future.

All of the costs accounted for above is based on that the precautionary principle will not work, but there is also one negative effect if it actually does manage to stop the climate change. With higher levels of carbon dioxide in the

¹⁵ The quote is taken from White, R.W., 1993. “Introduction” in Ulman, M.F., (ed.), *Keeping Pace With Science and Engineering: Case Studies in Environmental Regulation*. Washington D.C.: National Academy Press.

atmosphere the temperature will rise and when it does, *ceteris paribus*, the greater productivity for agriculture. The greater productivity the more food, which leads to better nutrition and in turn ought to have the effect of better health, less disease and lower mortality (Goklany in Morris 2002:194). A decrease in carbon dioxide emissions could therefore lead to loss of lives.¹⁶

Climate change is a type example of organised irresponsibility. We are all part of it but there is no one specific, neither state nor individual, that could be held accountable. Therefore the costs of the climate politics need to be spread out. One could argue that the Western World should take greater responsibility than some of the countries in the developing world, as the European Union bargained for at the Bali meetings in December 2007, but it is not a non-controversial stand. United States had a different view showing that China now is among the world's top emitter of carbon dioxin and therefore should take bigger responsibility than they were aiming for.

All of theses possible negative effects of using the principle are truly negative, but they do not interfere with our democratic- and human rights. In that sense one could argue that we do not have so much to loose, but which are the possible effects if applying the principle on other areas?

5.3 Alternative costs in using the principle in other policy-areas

When the precautionary principle is being used in policy-making in other areas than environmental law new problems and costs surface. As written above, some of the negative effects that could occur when applying the principle on climate change are that the costs increase, it could be paralyzing and it could give us a sense of false security. We do not have to let go of, or give up, our rights as citizens of a democratic state. We might have to cut down on electricity, on driven miles with our cars and on our consumption but we do not have to give up our basic rights.¹⁷

Marchman and Mossman's study over three cases in the EU shows that the "[...] precautionary principle is not being applied to produce a consistent, uniform increase in precaution but rather is being used selectively to produce extreme results in certain cases in an arbitrary and unprincipled manner" (Marchman &

¹⁶ It is, of course, not as easy as that. Lives will also be lost, because of higher sea levels etc. A balance needs to be done between the benefits and the risks.

¹⁷ Some might argue that it is a basic right to drive your car for as many miles as one wish and to consume as much electricity as one want. What I mean with basic rights is the UN's Human Rights.

Mossman 2005:31).¹⁸ To apply the principle on other areas where the consequences could be more severe could have grave implications.

The alternative costs when the principle is being applied on the fight against terrorism and the problems of immigration will be accounted for below.

5.3.1 Derogation of civil liberties

The loss of liberties has been heavily debated in the literature of the precautionary principle and it can be tracked back to the debate about regulations versus liberties (Stone 2002:121ff). The most common arguments for that a liberty-security trade-off really exist are; (1) security creates dependence on the provider, (2) people need to be self-sufficient in order to be truly independent and free and (3) if governments act paternalistically, protecting people from harming themselves, it must necessarily limit people's freedom (*Ibid.* 2002:127).

In the midst of external or manufactured threats the public and its leaders will initially overreact. The leaders will favour precautionary matters that do not take liberties into consideration as much as protection since it is the top priority. The explanation of this lies in the two phenomenon of availability heuristic and probability neglect (Sunstein 2005:204). If we recall the one of the conclusions established by Slovic *et al*; “[Risk Management] Experts’ risk perceptions correspond closely to statistical frequencies of death. Laypeople’s risk perceptions [are] based in part on frequencies of death, but there [are] some striking discrepancies. It appears that for laypeople, the concept of risk includes qualitative aspects such as dread and the likelihood of a mishap being fatal. Laypeople’s risk perceptions were also affected by catastrophic potential.” Experts’ perception of risks should be based on statistical calculations of the presumed consequences. This is not the case when the precautionary principle is the guiding rule. With the principle to lean on politicians could take arbitrary decisions and experts do not need to advise them differently. Here, probability neglect is not bad the only thing that needs to be taken into account is the possibility.

Sunstein also claims that there is an additional factor – the shift from psychological to political dynamics. Government often imposes selective restrictions on liberty rather than broad ones in responding to security threats. The result is that it only affects a few people and hence do not activate the ordinary political checks on unjustified restrictions (*Ibid.* 2005:204f). The two first phenomenon mentioned tend to make people focus on a worst-case scenario that lead to measures that could not be justified in reality when looking at the probability.

¹⁸ The study look at which role the precautionary principle played in three cases in the European Union; (1) *Fornasar*: Eliminating Fair Notice, (2) Antibiotics in Animal Feed: Ignoring Scientific Advice, (3) Mad Cows and Erratic Courts.

After the bombings in Madrid 11 March 2004, killing 191 people and hurting 2050, 57 counter-terrorism measures was proposed to the EU Summit 25-26 March in Brussels. Out of 57 propositions 27 had little or nothing to do with the fight against terrorism. In fact they were about crime in general and surveillance of the whole population. Eighteen of the propositions raise concerns over civil liberties and democratic standard (Statewatch 2004). With the precautionary principle all of the proposing measures could be imposed since they are all needed if one calculates on the possibilities and not the probabilities.

5.3.2 Human rights, democratic procedures and the rule of law

The precautionary principle, which is sprung from what could be called common sense, could in fact turn out not so sensible and reasonable. In the risk society the catastrophe becomes the norm and not the exception. Today the fight against terrorism has become the norm in the organisation of safety and security (den Boer 2005:2). Again we have probability neglect.

After the terrorist attack in New York on 11 September 2001 the EU responded quickly to the possible threat against Europe. A range of counter-terrorism measures was taken within a few weeks in order to be better safe than sorry, but without really looking at the effects on human rights (Leonard 2005:1). Amnesty claims in their report *Human Rights Dissolving at the Borders? Counter-terrorism and EU Criminal Law* that EU has a human rights deficit in its counter-terrorism strategy. For example can a suspect terrorist have his/hers bank account and other financial means frozen without hearing and without hard evidence.¹⁹ Just as it is a violation against the right to be heard before judged it is a derogation of the individual freedom and civil liberties.²⁰ Citizens “should be able to predict the impact of the actions of the state upon themselves and secure redress when affected by illegitimate actions” (Hill & Hupe 2006:22). When the fast counter-terrorism measures were taken, the criterion above was not fulfilled, decisions were non-predictable and not what European citizens are used to. The rule of law was not respected.

The EU's counter-terrorism strategy consisting of Prevention, Protection, Pursuing and Responding sets out measures to improve the control of the borders bounding to the Union (EU Counter-terrorism strategy 2005). The reason is that better control will keep terrorists away, but an alternative reason could be that the people of Europe and their leaders do not have to be afraid of immigrants spilling over the borders. With the Schengen area, third country nationals (TCN) can travel to other states within the area once they are admitted into one of them. This causes political concerns over law and order, economic costs, and national security. The security is even a bigger concern since 9/11 (Givens & Luedtke

¹⁹ Only in the UK assets over 70 million pounds was frozen from 2001-2004.

²⁰ Some would say that the fight against terrorism justify the limited human rights, others that human rights are fundamental to limit and cross out terrorism.

2004:146). In 2005 the European Parliament (EP) and the Council got co-decision powers over immigrant and asylum issues, which means that when a policy is to be decided on the legislation is adopted through a bicameral procedure between the two of them.²¹ This process is used mostly when it is regulatory and expenditure policies and also some citizen- and macroeconomic policies (Hix 2005:9). It should also be used especially when it is regarding controversial policies and not too technical. Studies have however shown that the co-decision is not being used in the thought way. Since 2005 there have been eight co-decisions about immigration and asylum and none went through the correct procedure. They were all taken in secrecy and adopted at first reading through *secret trilogue* meetings (Statewatch 2007b:7). The precautionary principle can be used to legitimize higher walls around Europe and also as an excuse to speed up the procedure of new regulatory matters.

5.3.3 Loss of lives and important technology

Instead of constantly continue to do more research and develop new technologies the precautionary principle sometimes put an end to that. Since it errs on the side of safety many technologies and new procedures are not to be tested in reality since there is a possibility that they could cause harm. Scientist Henry I. Miller and political scientist Gregory Conko claim that several European countries have been using the precautionary principle in order to justify paralyzing restrictions on agricultural- and biotechnology (Miller & Conko 2001:302).²² In their point of view the fear of genetically modified (GM) crops is so exaggerated it threatens lives. Policy-makers can with the principle's justification impose restrictions on what they think could cause harm in the future.

In 2002 the government of the United States donated thousands of tons of corn to Zambia. The Zambian government refused to receive it since it could hold GM kernels leaving about 2.9 millions people risking starvation (Madeley 2003:31). The president of Zambia specifically said that the precautionary principle was behind the decision (Marchant & Mossman 2005:18). A decade earlier, in the late 80s, environmental activists advocated for a ban of chlorine in drinking water since they thought it could cause cancer. The Peruvian officials stopped chlorinate the water since it was costly and now not even safe. It resulted in the acceleration and spread of the cholera epidemic in Latin America 1991-1996 that effected an estimated 1.3 million people and killing 11 000 (Miller & Conko 2001:302).

Crucial events like this has not yet happened in Europe, but could as well happen here as in Latin America or Zambia when the precautionary principle is the highest guiding rule.

²¹ The Commission is here executive and have the monopoly of policy initiative.

²² Authors to the book *The Frankenfood Myth: How protest and Politics Treaten the Biotech Revolution* (2004).

5.3.4 False security

The precautionary principle may create a sense of security to some but it could be a false security. The principle is a blunt tool and when using it there is a great insecurity of what the effects will be and if it in fact will be precautionary at all.

During the BSE crisis in Britain in the late 80s and early 90s the British government reassured the citizens that their anxiety over BSE was exaggerated and futile.²³ The reassurance became a problem when the UK Ministry of Agriculture, Fisheries and Food wanted some regulatory measures to be done.²⁴ If they had implemented any precautionary measures, no matter how cheap or useful, a number of questions would have been raised. The government's reassurance would have been doubted and the logic of not introducing further and more expensive controls would have been questioned. Therefore, no precautionary measures were imposed at that stage which now afterwards is seen as a failure (European Environment Agency 2001:161). It could therefore give false security in two ways; if imposed (I feel safe since precautionary measures have been taken) or not imposed with reassurance of safety (I feel safe because the government says I am).

We need to separate the security the public experience and the real and true security, since it is two completely different things. They are, however, tightly linked together and the public's experienced security could sometimes be of a higher value than the real one.

EU sent out a memo October 2006 explaining their new flight regulations on liquid in the hand luggage on aircrafts. It was a fear that terrorists could bring on explosive liquids on the planes that was behind the decision (MEMO/06/363). The precautionary measure is only one in a row of aviation regulatory measures that have been adopted in order to try to stop a terrorist attack. Do we feel safer now and *are* we safer now? The questions are difficult to answer but the trust for the EU among its population has increased and is now on 57%, the highest since 2004 (Eurobarometer 67, 2007:50). Could it be that the precautionary measures keep the population feeling safe even if that is not the case?

5.3.5 Anxiety

Anxiety is driven by the loss of trust and security in a more globalized and anonymous world, as written in the chapter of the anxiety society. So how can the trust of the EU and its institutions increase when anxiety also increases? In times of fear and anxiety institutions and its leaders could function as a calming parent showing the public that precautionary measures have been taken and they are now safe, as long as they obey the precautionary rules. The danger with the precautionary principle is that when the public realise that policy-makers

²³ Also known as the "mad cow disease".

²⁴ In 2001 the Ministry became a part of the UK Department of Environment, Food and Rural Affairs.

calculates on the possibilities instead of the probabilities they can no longer be trusted because the principle is highly non-predictably. A society where the decisions are non-predictably is an anxious society.

To say that the precautionary principle creates anxiety may sound like a paradox to the false security, but it is not. People do not feel secure, they have a notion of false security and hence not a feeling of safety. In the very heart of the discourse of fear lays the mission to create a belief that things are out of control. Authors, such as Ferraro (1995), talk about fear as a self-fulfilling prophecy (Altheide 2006:420).²⁵ When we mistrust others out of fear it also increases our fear, which in the long run will lead to a decrease in the social capital in the society. It could also lead to stronger bonds within sub-groups but anxiety will not build any bridges between the groups and therefore creating gaps between them.

For the European Union to be a single market with free movement of labour a harmonization of immigration policies is necessary. There is a great political gap between EU's mandate and the result, which is due to national blockings of harmonization proposals. Extensive research has been done on the issue but the prominent literature does not address the nature of public opinion on harmonization (Luedtke 2005:84f). Immigration may not come off as a crucial issue in Europe today compared to the climate change and terrorism but surveys show that it is. The citizens across Europe ranked the importance of immigration higher than terrorism, pensions, taxation, education, housing, environment, public transport, defence and foreign affairs in 2006. Over all in EU27, 21% thought that the issue of immigration was of high importance, terrorism 15% and the environment only 4% (Eurobarometer 67, 2007:34). As one could expect immigration is seen as a bigger problem in the EU15 than in the EU27. In Spain immigration is seen as a problem by 36% of the population, probably fearing immigrants from outside the Union more than from Eastern Europe and in the UK 32% says it is a problem (*Ibid.* 2007:33).²⁶ In 2007 immigration and terrorism were still considered to be of higher importance than the environment but had decreased with 6% and 3% each. The fight against environmental problem on the other hand had increased with 3% and is now up on 7%.²⁷

The climate change and environmental issues has risen on the agenda over the last years and is now one of the top priorities in the Union. The media coverage was massive last year (2007) and has taken media-space away from terrorism and immigration issues. Strong signals have been used and worst-case scenarios have been painted but there is a risk here called the "cry wolf syndrome". When warnings or call for help turns out to be false or not as severe as one initially thought a subsequent warning that is true, coming from the same source or is about the same issue, is likely to be treated as false (Jervis *et al* 1985:83). The long-term efforts will be more difficult to achieve with a worst-case approach

²⁵ Ferraro, K.F., 1995. *Fear of crime: Interpreting victimization risk*. Albany: State University of New York Press.

²⁶ Also Malta, Denmark and Belgium scores high (Eurobarometer 67, 2007:33).

²⁷ Compared to Sweden 27% thought it was a burning issue (Eurobarometer 67.2, 2007:9).

(Rubin in Morris 2002:124). Could this be why the people of Europe are no longer as concerned over terrorism as they were before? As we could see in chapter 5.1 about risk perceptions and worst-case scenarios the fear of terrorism have decreased over the last years. Today only 12% (EU27) say that terrorism is their biggest concern (Eurobarometer 67, 2007:33).²⁸

²⁸ In EU15 it is 15% (Eurobarometer 67, 2007:33).

6 Discussion

The precautionary principle is today a domestic and international law-binding rule in treaties, agreements and jurisdiction. What seems to be a common sense principle at first glance about how to be better safe than sorry is not so innocent when looking closer at it. In current European environmental politics there are costs when applying the principle, and there could be costs in the future that is not yet known. These are; the economics costs increase, it does not help prevent the climate change, it hinders alternative solutions and it could be used for personal and economic self-interests. Furthermore, lives could actually be saved if the level of carbon dioxide rises.

Alternative costs of the principle applied on the immigration- and terrorism issues are more severe than the other ones consisting of; derogation of human rights, democratic processes and the rule of law, loss of lives and technology, false security and anxiety.

Each one of the above written alternative costs leads to anxiety and therefore might be the biggest costs of them all since anxiety creates instability in society. An anxious society takes on new radical precautionary policies easier than a society that has a feeling of security. **The precautionary principle and anxiety are therefore mutual dependent on each other and together they also strengthen one another.**

Linked to the precautionary principle and anxiety is the worst-case scenario. It is being used as an eye-opener and to easier take, sometimes radical or peculiar, decisions and policies. Media, the public and its leaders are all linked to each other in creating social anxiety. The Commissioner for Environment, Stavros Dimas, writes on his official blog 2 October 2007 “Once opinion is mobilised then politicians and businesses are usually quick to follow” (Dimas’ official blog). Worst-case scenarios are, as has been shown, an efficient and cheap tool to mobilise opinion, both for politicians and for other interest groups. After that has been done the precautionary principle could be used as a way to legitimise regulations of low-possibility risks since it calculates on the possibilities and not the probabilities.

Another link that has been shown in this paper is the risk society and manufactured risks, which are linked to the complex ethic value system that needs to be taken into account when a decision are do be made. Since the precautionary principle is all about values it fits right in.

Added to all of the above written costs and criticism of the principle I would also like to add a final one. When imposing precautionary measures there is no method to measure them. We cannot know whether it actually did help to prevent a catastrophe or a hazard because there is never any evidence. If it became worse after imposing precautionary measures one could always say that it would have

been *even worse* if the principle had not been imposed and vice versa. **It is therefore only anxiety and fear that can legitimate and accept the use of the principle.**

The purpose of this paper is not to come up with an alternative to the precautionary principle, there are already alternatives ready to use. Rational decision-making was being used before the entry of the principle, and are still being used in many policy areas. Cost-benefit analysis one way to use rational decision-making that balances the costs of imposing a policy to the outcome's benefits (Stone 2002:233ff). The costs and benefits should not be strictly economic instead everything should be weighted in. To calculate on probabilities is a sound option to calculations on possibilities and I therefore recommend that.

There are however positive things with the principle otherwise it would not have been used so frequently. Many of its advocates argue that it is a sound guiding rule in theory. Steele claims that the value of the principle lies in that it "emphasises aspects of good decision-making that go beyond the scope of formal decision theory" (Steele 2006:19). She continues saying that the principle appeals to the ethical thinking about sustainable development. Bringing in ethics in policy-making is a simpatico move but the problem lies in who gets to decide what is right and what is the wrong thing to do when we do not have full scientific evidence. If the precautionary principle is being used as Marchman and Mossman claim (used selectively to produce extreme results in an arbitrary an unprincipled manner) even in the areas of terrorism and immigration the consequences will be severe. The question is whether we would want to be 'better safe than sorry' or 'safe *and* sorry'.

6.1 Further research

A wide range of further research could be done in this area. My suggestions are only a fraction of all the possibilities. An interesting angle would be to look into who bears the cost of demonstrating the safety in practice and who bears the burden of any damage being done. Can one be hold responsibility for damage of a precautionary measure, for example? Another big research task would be to figure out an alternative guiding rule to the precautionary principle. Today the alternative is cost-benefit analysis, but it could be hard to apply when there is little scientific evidence.

The anxiety society still needs to be defined and its characteristics to be mapped out, and that is my wish for future research.

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