

PARALYZING PRECAUTIONARY PRINCIPLE

Problems with the Precautionary Principle & Sustainable Development that the Environmentalists do not want you to know



THE PROBLEM IS...

that the Precautionary Principle, as applied, is a crude and sometimes perverse method of promoting those various goals, not least because it might be, and has been, urged in situations in which the principle threatens to injure future generations and harm rather than help those who are most disadvantaged. A rational system of risk regulation certainly takes precautions. But it does not adopt the Precautionary Principle.

-Cass Sunstein

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Listed below are some of the documented problems associated with the Precautionary Principle:

- Multiplicity-Swedish philosopher Per Sandin has documented 19 versions of the precautionary principle in various treaties, laws and academic writings^{24,25}. Although these versions are similar in some aspects, they have major differences in terms of how uncertain the science is evaluated, how the severity of consequences is considered and how the costs and risks of precautionary measures are considered.

- Ambiguity of its component elements: The Precautionary Principle is based on the common-sense adage that it is better to be safe than sorry. There is, however, no standard text for the Precautionary Principle. Each formulation of the PP shares the common

prescription that scientific certainty is not required before taking preventive measures. In addition, most versions of the PP involve some degree of burden shifting to the proponent of an activity or product to demonstrate the safety of its product. The many different versions of the PP have a common shortcoming, however, in that they fail to answer the critical question of how much precaution to apply in a given circumstance (Bodansky 1991; Marchant 2002).²⁶ In addition, applying a concept as vague as the Precautionary Principle as a legal requirement creates two types of problems. First, it creates the opportunity for arbitrary and unpredictable decisions by agencies, governments and courts. Second, it makes it very difficult for courts to perform their responsibility to ensure reasonableness of agency decisions. An example of this is when the EU applied the Precautionary Principle to ban the import of North American beef from animals treated with hormones, even though the EU's scientific committees and the WTO found no scientific rationale for the ban. Also, several courts have already expressed concern about treating the Precautionary Principle as a legal instrument, Australian courts for example.

- Weighing Risk vs. Precaution: The 19th century French economist Frederic Bastiat, encouraged one to think more deeply about being precautionous. According to Bastiat, the challenge for social policy is to look beyond the immediate and anticipated effect of an action and to foresee the services of effects of a policy that often unanticipated. The risks and benefits of the unintended consequences of policy need to be taken into account²⁷ The principle often that this into account.



Source: <http://bastiat.net/>

- The Precautionary Principle will slow or perhaps stop development or innovation since the burden of proof is on the product/service before it comes to market. SEHN does not deny that this is certainly the case (refer to the section "Answering the critics").
- The Precautionary Principle is based up emotion (fear) and is irrational. If you refer to the Answering the Critics section, you will see that they attempt to instill fear into people "*that babies are born with "toxic substances-not defined" in their bodies*". This goes towards the environmental activists mantra that nature is good and man-made chemical are bad. Also, since they use a general term such as "toxic substances", that could be mean just about anything (another way the principle is vague).
- Since the Precautionary Principle advocates the testing required (whatever that testing may be) to determine if a product or service is safe, this will discourage innovation and discourage development of new products and services. One reason will be is that testing cost to determine safety (which are yet to be defined) will be required before the product go to market. To the contrary of SEHN's claims, there have been a multitude of studies that have shown that companies have not saved money in the area of pollution prevention. See the section of the website that deals with the Porter Hypothesis.
- The SEHN's claims that the Precautionary Principle is not all about bans. This is really a half truth. There have been bans based upon The Precautionary Principle. A second common method of compliance is product is restriction of how the product/service is used or sold. Another method of compliance is to make the product in question comply with testing standards at the whim of regulators. An example of this is the REACH program in Europe. In summary, regulators want a method to be able to restrict economic output without any justification.
- The SEHN's claim that with the Precautionary Principle, we must deal with the "hazards" for which we are responsible for and over which we have control. By making this statement, SEHN is utilizing the concept probability neglect (some people want to avoid risk regard of the probability of the risk actually occurring). One frequently used tactic used by environmental activist is using the cancer scare. With increasing frequency you hear about this chemical or that chemical giving you cancer. One thing you often do not hear from environmental activist is the risk factor for cancer from the environment factors (air & water pollution) is around 2-3%. Occupational related risk factors range from 1-4%. Yet another tactic that activist use is claiming that "environmental" cancer risks are around 70% or greater. This statement is only partial true. In those studies that make those claims the three biggest risk factors (smoking, diet, infection) along with the environmental factors (air & water pollution). One must take care when interpreting cancer risk studies since researcher have the term environment to include the three biggest risk factors.
- SEHN claims that the regulatory environment is not stringent enough. By use of the Precautionary Principle any regulator at the local, state or federal level can ban or restrict a product based upon the belief (remember you do not need scientific evidence) that it may be harmful (another word which is not defined). The affect that this would have on the economy would be devastating.
- SEHN claims that it is possible to demonstrate that there are safer alternatives to an activity or product. Who defines safety and how is a product is determined to be safer than the existing product/service. This is yet another example of the vagueness of the Precautionary Principle.
- SEHN claims that the virtue of the Precautionary Principle is to continuously try to reduce out impact rather than trying to identify a level of impact which is safe or acceptable. The first problem the statement perpetuates the idea of nature being benevolent nature. The second problem is that the statement implies that the Precautionary Principle has defined goals, test methods, etc. which it does not.
- The Precautionary Principle has been invoked on occasions for an ulterior motive. EU applied the Precautionary Principle to ban the import of North American beef from animals treated with hormones, even though the EU's scientific committees and the WTO found no scientific rationale for the ban. This is not the first time this happened.
- When does the principle and does not apply: Consider first the important differences between different versions of the Precautionary Principle. Sandin (1999)²⁸ identified 19 different formulations of the Precautionary Principle that differ across four dimensions he described as threat, uncertainty, action, and command. Different versions of the Precautionary Principle vary, for example, in the level of the threat necessary to trigger the principle from "threats of serious or irreversible damage" to "variable risks," a discrepancy of enormous policy importance. While some of the variations between different formulations of the principle are mostly semantic, other differences

go to the core of the meaning and application of precaution.²⁹

■ How does the Precautionary Principle apply: Consider the important differences between two well-known versions of the Precautionary Principle.

[The Rio Declaration produced by the 1992 United Nations Second Special Session on Environment and Development \(United Nations Conference on Environment and Development 1992\)](#) endorsed the following Precautionary Principle formulation:

"When 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".

[The Wingspread Statement \(1998\)](#) prepared by Precautionary Principle proponents defined the Precautionary Principle as follows:

"When an activity raises threats of harms to human health or the environment, precautionary measures should be taken even if some cause and effect relationships are not fully established scientifically".

These two Precautionary Principle formulations have critical discrepancies. The Rio Declaration applies only to "serious and reversible risks," whereas the Wingspread Statement presumably applies to any risk. The Rio Declaration applies by its terms only to actions that would result in environmental degradation, whereas the Wingspread Statement is broader, applying to actions that would harm either the environment or human health. The Rio Declaration indicates that any regulatory actions undertaken should be cost effective, whereas the Wingspread Statement gives no consideration to costs. The Rio Declaration imposes no affirmative duty to act, but the Wingspread version is phrased in terms of a positive obligation to act. The combined effect of these differences could easily result in inconsistent regulatory outcomes in many cases.³⁰

■ The Principle gives uncontrolled power to Judges and Regulators. Dr. Gary Marchant, author of the book *Arbitrary and Capricious*, who has this to say: "*Proponents of the precautionary principle see power in its ambiguity. It gives regulators and courts unlimited discretion, and its ambiguity undermines transparency, accountability and fundamental principles of jurisprudence. Inevitably, the precautionary principle provides a shaky foundation for Europe's legal decision-making. It will collapse on itself -- but not before it does serious harm to Europe's economy and society.*"³¹ It has been suggested that proponents see that this principle is easily manipulative and that is another reason for its appeal among lawmakers.

An example of this is in the UN document, [Trading Precaution: The Precautionary Principle and the WTO](#), it states that developing countries has concerns regarding the Precautionary Principle. An example given in the report noted that several African countries (Malawi, Mozambique, Zambia and Zimbabwe) rejected donated from the US because some of it contained genetically modified maize (taboo according to the Precautionary Principle in the UN's [The Cartagena Protocol on Biosafety](#)) during the famine of 2002 and 2004.

Also, according to the document, the debate on the precautionary principle is complex and often abstract. To a certain extent, the precautionary principle can be seen as a "*culturally framed concept [...] muddled in policy advice and subject to the whims of international diplomacy and the unpredictable public mood over the true cost of sustainable living.*"

In addition, the Precautionary Principle has been applied to various environmental issues and has over twelve different definitions in international agreements. What is lacking is a uniform description of the precautionary principle in these agreements, leading some critics to argue that the principle is overused without a clear understanding of its meaning and consideration of its implementation. The flexible definition of the precautionary principle may be its strength, but also one of its greatest weaknesses.

■ There will always be a trade-off between overregulation (false positives) and under-regulation (false negatives) in regulation of uncertain risks (Stewart 2002; Wiener and Rogers 2002). The total number of false positives and false negatives can be reduced, although never eliminated, through the development of more accurate risk assessment methods and data. The relative balance between false positives and false negatives can also be shifted by applying more or less precaution but only at the cost of increasing one type of error by reducing the other. The more precaution that is applied, the more false negatives we will have avoided, but also the more often it will turn out that we have acted excessively (i.e., false positives) (Goldstein 1999). It should come as no surprise, therefore, that some examples of overregulation and under-regulation can be identified after the fact, as there will always be some of both error types³².

■ Many of the risks now cited as exemplars showing the need for greater precaution were not, and perhaps could not have been, foreseen at the time of initial product deployment. To be sure, a strong case can be made that industry and government regulators moved too slowly in preventing additional harm once the evidence of such adverse effects was available, or that imposing stronger premarket testing requirements on product manufacturers may have permitted earlier detection of product risks. But prior to that time, the problem was ignorance rather than uncertainty about risks that were outside the scope of foreseeable effects (Bodansky 1991; Hoffmann- Riem and Wynne 2002). It is difficult to see how the PP can help

address risks for which we are ignorant rather than uncertain. As stated in the study [Ignorance, the Precautionary Principle, and Sustainability](#), “[w]e cannot prevent the unanticipated: the Precautionary Principle still leaves us bound by present knowledge.”

■ It is easier to prove the existence of risk than the absence of risk (Hansson 1997). There is no serious doubt, for example, that asbestos causes mesothelioma or that DES caused adenocarcinomas, whereas any conclusion that a particular agent presents no significant risk is necessarily more tentative and qualified. For example, a new study could show tomorrow that the MMR vaccine does indeed cause autism, even though the data available to date indicate there is no such association (Madsen et al. 2002). In contrast, it is inconceivable that a new study could demonstrate, for instance, that asbestos does not cause mesothelioma. Thus, examples of false positives are likely to be more provisional (and perhaps then undercounted) than examples of false negatives³³.

■ Although the false negatives may be easier to detect, they also generally involve more serious consequences than the false positive. The societal costs of unnecessary carcinogenicity warnings for saccharin or forcing apparently safe products such as silicone breast implants or Bendectin off the market may be substantial but pale in comparison to the consequences of many false negatives such as asbestos or mad cow disease. This asymmetry may not apply in all cases, such as when overly stringent regulation of one set of health risks may increase overall risk as a result of risk–risk trade-offs (Cross 1996; Graham and Wiener 1995). Other cases, however, will often involve balancing the health effects from potential under-regulation (false negatives) versus the economic costs of potential overregulation (false positives). Our strong (although not infinite) preference for lives over dollars provides much of the justification for the PP (Geistfeld 2001)³⁴.

■ Typically humans are Loss Adverse. This will be discussed in length in the next section.

■ The myth of a benevolent nature: Loss aversion is often accompanied by a mistaken belief that nature is essentially benign (safe), leading people to think that safety and health are generally at risk only or mostly as a result of human intervention. A belief in the relative safety of nature and the relative risk of new technologies often informs the Precautionary Principle. Because natural processes are often dangerous and human interventions often promote safety, a commitment to nature can be life threatening.³⁵

■ The availability heuristic. This will be discussed at length in the next section.

■ The neglect of probability. This will be discussed at length in the next section.

■ System neglect: This will be discussed at length in the next section.

■ Implicit policy vs. hidden policy statement: What is meant by this is that on the Federal, State and local levels, precautionary principle-like policy is enacted more and more frequently. This could be done as an implicit policy statement like the City of San Francisco. This is typically not the case. Usually regulators do not use the term precautionary because of the negative connotation that is attached to this type of policy.

■ It has been claimed that the Precautionary Principle is absolutist or overly rigid. According to one author, “*in several treaties, the Precautionary Principle is formulated in absolutist terms. It stipulates that once a risk of a certain magnitude has been identified, preventive measures to erase that risk are mandatory*”³⁶. Another way to look at this is that decision-makers must pay unreasonable attention to even those things that are extremely unlikely scenarios.

■ The Precautionary Principle leads to the imposition of new risks since cautiousness in one respect often leads to unintended risk in another. An example of this would be the use of a pesticide in a developing country may be forbidden in that country due to perceived health risks, but then that country runs the risk of having their crops destroyed by pests³⁷.

■ Critics of the Precautionary Principle say that the principle is not science based. Considering the fact that you do not need science based argument of theory to get the principle started. Science based decisions are only made at pre-designated junctures when the principle calls for it.

■ Critics of the Precautionary Principle have argued that the principle is a value judgment or an ideology and not based upon actual judgment. The Precautionary Principle merely expresses a subjective attitude of fear against risk taking and there can neither be confirmed or falsified by scientific studies (since scientific studies are not needed according to most versions of the Precautionary Principle)³⁸.

■ The Precautionary Principle is unscientific and marginalizes the role of science. This is the case since precautionary measures be taken against a threat even if scientific evidence has not been established. There are two meanings to the word unscientific. First if the preemptive measure is not based on science. Second, the precautionary measure may be unscientific if it contradicts science.³⁹

■ The misconception that regulation or government intervention spawns innovation and competitiveness in the private sector. Proponents of the Principle and Sustainable Development believe that by government intervention, the government is actually helping with innovating new products, process, etc. There are two studies that are frequently cited in this area are:

[Green and Competitive: Ending the Stalemate, Porter, Michael E., van der Linde, Claas.](#)

[Toward a New Conception of the Environment-Competitiveness Relationship, Porter, Michael E., van der Linde, Claas.](#)

In these papers, the claim (Porter Hypothesis) is that properly crafted environmental regulation can serve at least six purposes:

- Regulation somehow signals companies about likely resource inefficiencies and potential technological improvements.
- Regulation focused on information gathering can achieve major benefits by raising corporate awareness.
- Regulation reduces the uncertainty that investments to address the environment will be valuable.
- Regulation creates pressure that motivates innovation and progress.
- Regulation levels the transitional playing field. During the transition period to innovation-based solutions, regulation ensures that one company cannot opportunistically gain position by avoiding environmental investments.
- Regulation is needed in the case of incomplete offsets. In such cases, regulation will be necessary to improve environmental quality.

The authors further explain the while the costs of compliance may rise with stringency, then, the potential for innovation offsets may rise even faster. Thus the net costs of compliance can fall with stringency and may even turn into a net benefit.

However, there are several major flaws with this hypothesis:

- One study stated: *"We take strong issue with their view. If this were simply a matter of intellectual sparring, it would be inconsequential outside academe"*⁴⁰.
- If environmental regulations are essentially costless then it would be unnecessary to justify and measure with care the presumed social benefits of environmental programs⁴¹.
- The hypothesis states the private sector systematically overlooks profitable opportunities for innovation and that regulatory authorities are looked upon to correct this "market failure"⁴².
- Regulators can help firms "to overcome organizational inertia and to foster creative thinking", thereby increasing profits.
- The hypothesis is static in nature and fails to address the inherent uncertainty in research and development decisions⁴³.
- The hypothesis does not allow for any sort of strategic interaction⁴⁴.
- When the companies from the Porter case studies were re-interviewed, they stated that any environmental regulations amounted to a significant **net cost** to their company, counter to the claims made in the hypothesis.
- Highly regulated markets tends to benefit larger corporations than midsize and small corporations. The reason why is because large companies have the resources to comply with regulations or the addition of regulations. Small or mid-size companies do not have the resource base available to them. This may cause the smaller companies to be less profitable or perhaps even close given the severity of the situation⁴⁵.
- Annual expenditures for environmental protection in the United States, net any offsets, currently are at least \$221 billion (2004)⁴⁶.
- Extremely severe regulations might cause plants to close down, leading to measured compliance costs being low rather than high⁴⁷.
- There are several econometric studies that suggest that environmental regulation has a negative impact on productivity growth⁴⁸.
- More regulated plants have significantly lower productivity levels and slower productivity growth rates than less regulated plants. The magnitudes of the impacts are larger than expected: a \$1 increase in compliance costs appears to reduce TFP by the equivalent of \$3 to \$4. Thus, commonly used methods of calculating the impact of regulation on productivity are substantially underestimated⁴⁹.
- "We estimate the relation between the "visible" cost of regulatory compliance (costs that firms' accounting systems correctly classify as "environmental"), and "hidden" environmental costs embedded in other accounts. Empirical results show that a \$1 increase in the visible cost of environmental regulation is associated with an increase in total cost (at the margin) of \$10-11, of which \$9-10 are hidden in other accounts. The findings suggest that inappropriate identification and accumulation of the costs of environmental compliance are likely to distort costs in firms subject to environmental regulation"⁵⁰.
- "Using plant-level data for three manufacturing industries, we have found a significant negative relationship between a plant's pollution abatement costs and its total factor productivity level and growth rate"⁵¹.

These are just a few of the many studies that show that the Porter Hypothesis has been proven false in the actual business environment.

Cognitive Biases why the Precautionary Principle seems so appealing

There are several [cognitive biases](#) why this Principle seem so appealing to some people.

■ **Loss aversion:** People dislike losses far more than they like corresponding gains. The result is that out-of-pocket costs, or deteriorations from the status quo, seem much worse than opportunity costs, or benefits lost as a result of continuing the status quo. In the context of risks, people often tend to focus on the losses that are associated with some activity or hazard, and to disregard the gains that might be associated with that activity or hazard. A closely related point is that unfamiliar risks produce far more concern than familiar ones, even if the latter are statistically larger; the Precautionary Principle, in practice, is much affected by that fact.

■ **The availability heuristic that contributes to cognitive bias:** It is well known that people focus on some risks simply because they are cognitively "available," whereas other risks are not. When the Precautionary Principle seems to require stringent controls on one risk, even though other risks are in the vicinity, the availability heuristic is a common reason. And when the availability heuristic is at work, certain hazards will stand out whether or not they are not statistically large.

■ **Probability neglect:** People are sometimes prone to neglect the probability that a bad outcome will occur; they focus instead on the outcome itself. The Precautionary Principle often embodies a form of probability neglect. At least, that is the case when people invoke the principle to favor stringent controls on a low-probability risk and when the consequence of those very controls is to give rise to new risks of equal or greater probability. In the context of the sniper attacks in the Washington, D.C. area in October 2002, people were far more concerned, and took many more precautions, than the statistical realities warranted, in part because the high salience of the attacks led to a form of probability neglect. It is highly likely that some of those precautions, including those that involved extra driving, actually increased people's risks.

■ **System neglect:** The Precautionary Principle often reflects a general neglect of the systemic effects of regulation. When a single problem is placed in view, it can be difficult to see the full consequences of legal interventions. Sometimes, the principle has the appearance of being workable only because a subset of the relevant effects is "on screen" — and hence there seems to be no need to take precautions against other possible adverse effects that do not register. I suggest that the Precautionary Principle seems appealing to many people in large part for the same reason⁵².

²⁴ <http://www.heritage.org/Research/Lecture/The-Perils-of-the-Precautionary-Principle-Lessons-from-the-American-and-European-Experience>

²⁵ <http://www.informaworld.com/smpp/content~db?all~content=a727072996~frm=abslink>

²⁶ <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC1241727/>

²⁷ Frederic Bastiat (1964) Selected Essays on Political Economy, Foundation for Economic Education. Irvington-on-Hudson, NY, page 1.

²⁸ <http://www.informaworld.com/smpp/content~db?all~content=a727072996~frm=abslink>

²⁹ <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC1241727/>

³⁰ *ibid*

³¹ <http://www.cfact.org/a/962/Dr-Gary-Marchant-on-Arbitrary-and-Capricious>

³² <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC1241727/>

³³ *ibid*

³⁴ *ibid*

³⁵ *ibid*

³⁶ <http://www.informaworld.com/smpp/content~db=all~content=a713775167>

³⁷ <http://www.informaworld.com/smpp/content~db=all~content=a713775167>

³⁸ <http://www.informaworld.com/smpp/content~db=all~content=a713775167>

³⁹ <http://www.informaworld.com/smpp/content~db=all~content=a713775167>

⁴⁰ <http://www.jstor.org/pss/2138393>

⁴¹ <http://www.jstor.org/pss/2138393>

⁴² <http://www.jstor.org/pss/2138393>

⁴³ <http://www.jstor.org/pss/2138393>

⁴⁴ <http://www.jstor.org/pss/2138393>

⁴⁵ <http://www.sba.gov/advo/research/rs264tot.pdf>

⁴⁶ <http://www.sba.gov/advo/research/rs264tot.pdf>

⁴⁷ <http://www.mitpressjournals.org/doi/pdf/10.1162/003465397557196>

⁴⁸ <http://www.mitpressjournals.org/doi/pdf/10.1162/003465397557196>

⁴⁹ <http://www.nber.org/papers/w4321.pdf>

⁵⁰ http://papers.ssrn.com/sol3/papers.cfm?abstract_id=261508

⁵¹ <http://www.nber.org/papers/w4321.pdf>

⁵² *Ibid*

