



To: City Development

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Subject: Essential Evidence on a page: No 51: The Precautionary Principle

Top line: Risks to health in the 21st century are increasingly likely to come as a result of global threats to resources. A precautionary approach, especially around resilience, notably protecting finite resources, is a highly rational approach in such a period of uncertainty from potential major threats.

Sometimes if we wait for proof it is too late. Scientific standards for demonstrating cause and effect are very high. For example, smoking was strongly suspected of causing lung cancer long before the link was demonstrated conclusively that is, to the satisfaction of scientific standards of cause and effect. By then, many smokers had died of lung cancer. But many other people had already quit smoking because of the growing evidence that smoking was linked to lung cancer. These people were wisely exercising precaution despite some scientific uncertainty.

The precautionary principle was introduced in Europe in the 1980s and became the basis for the 1987 treaty that bans dumping of persistent toxic substances in the North Sea. A growing number of Swedish and German environmental laws are based on the precautionary principle. According to the precautionary principle, when reasonable scientific evidence of any kind gives us good reason to believe that an activity, technology or substance may be harmful, we should act to prevent harm. If we always wait for scientific certainty, people may suffer and die, and damage to the natural world may be irreversible. Key elements of the principle include taking precaution in the face of scientific uncertainty; exploring alternatives to possibly harmful actions; and placing the burden of proof on proponents of an activity rather than on victims or potential victims of the activity.

The importance of adoption of the precautionary principle lies in the fact that humans and the rest of the natural world have a limited capacity to absorb and overcome harm and that we must be much more careful than we have been in the past. The greatest threat in the 21st century is likely to be climate change and - although with less evidence of certainty - the potential and more imminent risk from Peak Oil.¹ Such 'systemic' challenges require precautionary approaches to build in resilience across all areas of public policy. The costs of insufficient precautionary measures could lead to dramatically higher 'catastrophe costs' than those costs resulting from precautionary actions (Table below).

Table: The payoffs of environmental policy under uncertainty²

	Catastrophe	Non-catastrophe	Maximum cost
Environmental control	large benefit - control cost	control cost	control cost
Laissez-faire	catastrophe cost	zero cost	catastrophe cost

¹ See www.bristol.gov.uk/tpevidencebase No 50.

² Jacobs, M. 1991 *The Green Economy: Environment, sustainable development and the politics of the future*, London: Pluto Press.