

THE PRECAUTIONARY PRINCIPLE

Introduction

This Note aims to provide a brief overview of the Precautionary Principle. It explains what the principle is, what it is not and when it should be applied. Readers are urged to obtain more detailed information from the documents listed in the bibliography, in particular the two excellent documents produced by Scotland and Northern Ireland Forum for Environmental Research.

What is the Precautionary Principle?

There have been many definitions and descriptions of the Precautionary Principle. However, the most widely accepted, and used, definition in the UK was set out in the Declaration of the Rio Conference:

“Where there are threats of serious or irreversible damage, lack of full scientific certainty should not be used as a reason for postponing cost-effective measures to prevent environmental degradation”.

At a practical level in the UK, this definition has been extended to apply to potential impacts on human health, including indirect threats that may arise from environmental degradation. Therefore, embedded within the Precautionary Principle, as amended, are the ideas that actions to protect the environment and human health are taken in advance, not after the damage has occurred, and that such actions should be proportionate to the risks involved.

The Precautionary Principle is a risk-based concept, the aim of which is to allow decisions to be taken and appropriate safeguards applied where there is scientific uncertainty and the potential consequences of inaction may be severe. It applies a consistent approach but recognises that each case and its outcomes may be different.

The Precautionary Principle investigates alternatives and applies a system for managing scientific uncertainty and ignorance in situations where regulatory action and inappropriate action could have serious impacts. It is an iterative procedure and, as such, it should be subject to regular review in the light of new information.

What the Precautionary Principle is not

The Precautionary Principle is not concerned with the prevention of well characterised risks. It is not a predictive tool and because it is applied where there is ignorance or uncertainty, the Precautionary Principle may not necessarily lead to a reduction in risk. The Precautionary Principle does not aim to achieve “no risk”, but to reduce risks at acceptable costs. It is not a replacement for risk assessment, but requires a supplementary and deeper approach. Nor is the Precautionary Principle a denial of costs. The costs of taking action or doing nothing are both considered.

This Note was produced by a Working Party of the Environment, Health and Safety Committee [EHSC] of the Royal Society of Chemistry.

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26 February 2009

When should the Precautionary Principle be applied?

The Precautionary Principle should be applied when there is good reason to believe that harmful effects may occur to the environment or human or animal health and the level of scientific uncertainty of the consequences of actions / processes is such that the risks cannot be assessed with sufficient confidence to inform decision making.

At one end of the risk continuum, risks can be easily identified and quantified. At the other end, the risks are either uncertain or unknown. In between is a grey area where the hazards or exposures are unclear or there is insufficient knowledge to enable the risks to be quantified. Here, a more qualitative approach is needed and decision makers may need to take precautionary measures.

Implementation of the Precautionary Principle

The EC Communication of the Precautionary Principle states that:

“The implementation of an approach based on the Precautionary Principle should start with a scientific evaluation as complete as possible and where possible identifying at each stage the degree of uncertainty”.

The EC sets out a series of steps to progress the Precautionary Principle which is analogous to those applied in other formal environmental management systems.

At the investigation step, the risks should be assessed as fully as possible and the uncertainty in the assessment should be evaluated. If the risks can be determined with sufficient certainty, decisions can be made on how to proceed to reduce them. If they cannot be determined, consideration should be given to reducing the uncertainty by either modifying the activity or stopping it completely, thereby reducing the risks.

Application of the Precautionary Principle

When applying the Precautionary Principle, it should be recognised that there are usually gaps in our knowledge. Nevertheless, the best information available should be used. The results of any action taken should be subject to periodic monitoring, review and modification in the light of new information. In order to maintain credibility, the process of applying the Precautionary Principle should be transparent and subject to peer review.

When applying the Precautionary Principle, it is important that all stakeholders should be involved, including members of the general public and their representatives, to ensure that all other relevant information can also be taken into account.

When making decisions after applying the Precautionary Principle, account must be taken of all possible options. The benefits of each option should be considered against the financial and environmental costs involved. The measures taken to manage the risks should be commensurate with the risks involved and be consistent with those taken for similar systems.

The process of applying the Precautionary Principle process should be properly documented to demonstrate a clear audit trail.

Conclusions

The Precautionary Principle is a dynamic process which involves best practice. It should be subject to regular review and should both incorporate lessons learned from similar processes and be updated where appropriate. The RSC fully supports the Precautionary Principle and believes that its application should lead to improvements in both the environment and human health.

Further Reading

Rio Declaration on Environment and Development, 31 ILM 874, June 14 1992

“Practical guidance on applying the PRECAUTIONARY PRINCIPLE”, Scotland and Northern Ireland Forum for Environmental Research (SNIFFER), 2006.

“Applying the precautionary principle – an overview”, Project UKC05, Scotland and Northern Ireland Forum for Environmental Research (SNIFFER), 2005.

Communication from the Commission on the precautionary principle”, 02.02.2000 COM, European Commission, 2000.

“The Precautionary Principle: Policy and Application”, United Kingdom Interdepartmental Liaison Group on Risk Assessment, HSE 2002.

“Absolute Safety is Absolutely Impossible: A rational look at progress vs. The Precautionary principle”, The Annapolis Centre For Science-based Public Policy, 2002.

EHSC Note on “Environmental Management Systems”, Royal Society of Chemistry, 2006

EHSC Note on “Environmental Risk Assessment”, Royal Society of Chemistry, 2008.

EHSC Note on “Risk Assessment at Work”, Royal Society of Chemistry, 2007.

S Lipworth, “Risk, precaution and chemical control”, RSC Policy Bulletin 6, Royal Society of Chemistry, 01 June 2007

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