

# PRECAUTION FOR INNOVATION

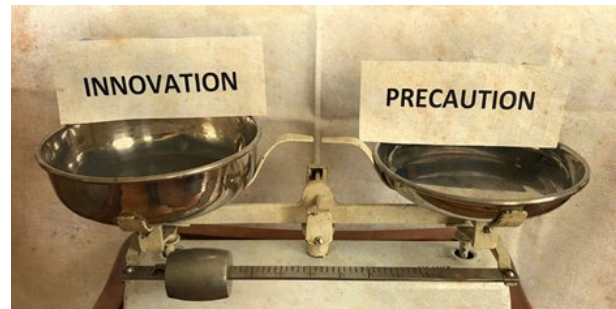
## IN BRIEF

- At first, innovations are also associated with uncertainties regarding their benefits and risks.
- The precautionary principle enables robust decision-making whilst taking uncertainties into account.
- These decisions are intended to protect health and the environment without impeding technical progress.
- The precautionary principle is not yet enshrined in law. However, it should become more legally binding to steer innovation in a socially acceptable direction.
- At the same time, the precautionary principle should support policymakers in assessing new technological developments.

## WHAT IS IT ABOUT?

Although new technologies such as nanomaterials or genetically modified organisms promise to be concrete solutions for existing challenges, for example in medicine or environmental protection, they also harbour considerable risks. Knowledge about such new technologies remains incomplete early on in the development process, whilst important decisions about their use have to be made immediately. This creates an area of legal and ethical uncertainty that the precautionary principle attempts to fill in order to effectively counter feared delays in the innovation process or even a standstill in development. The precautionary principle states that in cases of justified suspicion of risk, far-reaching decisions can be made to protect people and the environment without completely banning the new technology, even where scientific circumstances have not been completely clarified.

These decisions must be appropriate to the respective situation and fit into existing regulations. The precautionary principle therefore offers guidance on how we can make informed decisions in situations of scientific uncertainty and how we can generally deal with new or emerging technologies without giving up fundamental rights.



Credits: Pavlicek, ITA

**Ideal scenario: innovation and precautionary principle are well-balanced**

Consequently, the precautionary principle can guide decision-makers who are faced with unacceptable risks to society, scientific uncertainty, and public concerns. As a general principle of EU law, it enables safe framework conditions in which innovation can take place. The precautionary principle has been criticised mainly by industry representatives as they have been identifying regulations based on the precautionary principle as potential hindrance to technological innovation and are therefore calling for an “innovation principle” as a counterpart. This should provide a suitable environment to adapt new legislation to the innovation process in a timely manner and promote the development of innovative solutions. The ITA has analysed the applicability of the precautionary principle using case studies from the field of nanomaterials.

## BASIC DATA

Project title:	<b>RECIPES - REconciling sScience, Innovation and Precaution through the Engagement of Stakeholders</b>
Project team:	Gazsó, A.; Pavlicek, A. (in an internat. consortium)
Duration:	01/2019 – 06/2022
Funded by:	European Commission
Website:	<a href="http://recipes-project.eu">recipes-project.eu</a>

## KEY RESULTS

The result of the study is a comprehensive guide that proposes the precautionary principle as a legally binding protective measure. It not only serves to regulate the use of new technologies, products or processes, but is also a proactive measure to better steer innovation towards sustainable development.



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### The PP as a compass for innovation

The six phases of applying the precautionary principle can be summarised as follows: (1) ensuring value-oriented innovation processes, (2) a priori risk reduction through anticipation, (3) early warning mechanisms, (4) assessment of suspected risks, (5) decision on suitable measures, and (6) monitoring the situation. During the first two phases, the principle serves as a compass, for example to assess possible negative consequences of technical or socio-technical developments. During the other phases, it serves as a protective and legal principle as soon as there are legitimate concerns about a technology.

A comparative analysis of the national case studies highlights the importance of this development. The NanoTrust project and the Austrian governance system for nanotechnology with its diverse instruments are described in detail in the guide. The “nano case” clearly shows the importance of creating transdisciplinary bodies to assess the state of knowledge on the development of nanomaterials and to establish an independent nanosafety research programme. The establishment of the Austrian NanoInformation Commission (NIK) and the focus on safety in the workplace are good examples of the practical application of the precautionary principle.

## WHAT TO DO?

**The precautionary principle is an open and flexible instrument designed to steer new developments in a sustainable and socially acceptable way, enabling viable political decision-making even in the face of uncertainty without hindering innovation.**

**The following options are available for wide-ranging application:**

- The precautionary principle could increasingly be incorporated into legally binding documents relating to the approval of new technologies, processes or products.
- The precautionary principle could serve as a guideline for political decisions and thus support the assessment of innovation in advance.
- Any suspected risks that give reason to the application of the precautionary principle must be empirically substantiated and scientifically justified.
- The distribution of potential benefits and potential harm can be of such great social importance that it should always be discussed transparently.
- The successful application of the precautionary principle in Austrian nanogovernance could be assessed for transferability to other areas of innovation.

## FURTHER READING

Tjelle Holm, N.K.; Dreyer, M. (eds.) (2022) GUIDANCE on the application of then the application of the precautionary principle in the EU.

[recipes-project.eu/sites/default/files/2022-07/2814\\_RECIPES\\_Guidance\\_Book\\_final.pdf](https://recipes-project.eu/sites/default/files/2022-07/2814_RECIPES_Guidance_Book_final.pdf)

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