



Schweizerische Eidgenossenschaft  
Confédération suisse  
Confederazione Svizzera  
Confederaziun svizra

Swiss Confederation

Federal Ethics Committee on Non-Human Biotechnology ECNH

**27th Meeting of the National Ethics Councils (NEC) Forum | Portugal**

**19-20 May 2021 | Focus III “Environmental Ethics”**

# **The idea of precaution and the role of an ‘innovation principle’**

Dr. Eva GELINSKY, Federal Ethics Committee on Non-Human Biotechnology (ECNH)

---

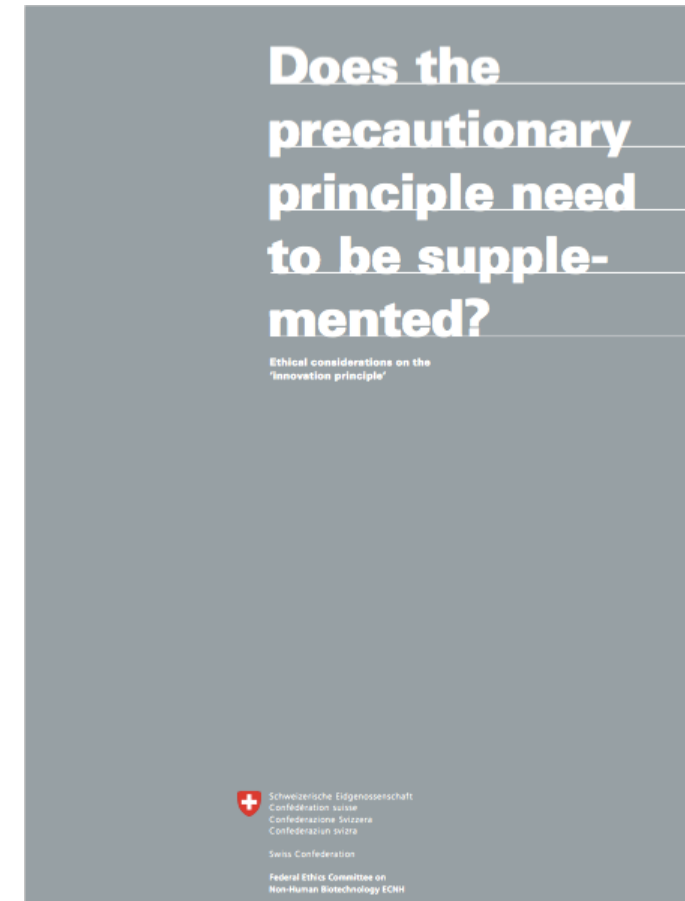
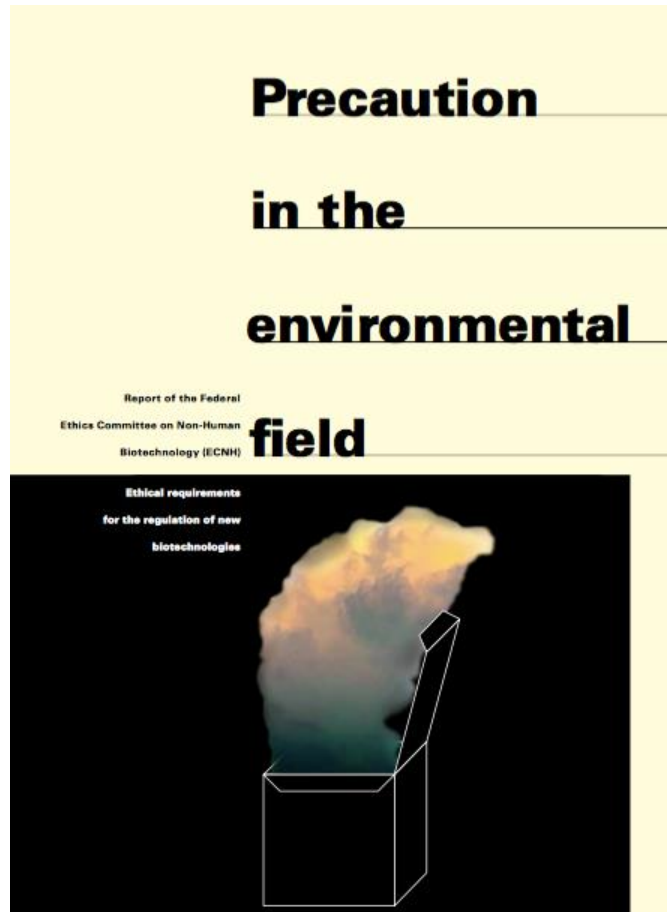


# Federal Ethics Committee on Non-Human Biotechnology (ECNH)

- Federal committee appointed by the Federal Council (Swiss Government) in April 1998:
  - to advise the Swiss authorities from an ethical point of view,
  - on legislation and enforcement of legislation in the field of non-human biotechnology.
- 12 members from different academic disciplines, half of them ethicists.



# Presentation of two ECNH reports



Download: <https://www.ekah.admin.ch/en/ecnh-opinions-and-reports/ecnh-reports/>



# The idea of precaution in law

- Reflected in environmental law in the precautionary principle (or approach).
- Established internationally in the Rio-Declaration 1992.

## Precautionary principle

Protective measures should be taken as a precaution if

1. one fears **serious or irreversible harm**,
2. but does **not (yet) have sufficient knowledge** about the probability of the harm occurring.



# The idea of precaution in law

## Do precautionary measures necessarily only involve proscription?

- **No: Precautionary measures can also exist as orders to act.**
- The obligation to proceed step by step, for example, means that missing knowledge can be acquired and potential serious damage restricted at an early stage.



# Situations of risk and of precaution

$$\text{Risk (R)} = \text{Harm (H)} \times \text{Probability (P)}$$

- H is known, P is 100% or 0%: **certainty**
- H and P are known (and >1% <100%),  
i.e. R can be calculated: **complete risk knowledge**
- H is known, P can (at best) roughly be estimated qualitatively:  
**incomplete or uncertain risk knowledge, uncertainty**
- There are scientifically plausible, justifiable indications for possible H,  
but P is not known: **vagueness**

risk

precaution



# What does this mean regarding a risk evaluation of the application of an technology in the environment?

- Scientifically plausible scenarios of serious irreversible damage.
- Incomplete knowledge or uncertainty about the probability of occurrence of such damage scenarios.

## ➤ Typical situation of precaution

- An adequate risk evaluation is (currently) not possible.
- No answer can be given (yet) as to whether the risk of application is acceptable or not.
- Risk data must be developed step by step.



# Step-by-step procedure

- Step by step from contained to open system.
- Each step must process the necessary risk data for the next step.
- Each step only to the extent that sufficient risk data is available to enable an appropriate risk assessment.
- Each next step only if the risks are assessed as acceptable.





# Procedure in situations of precaution

Taking precaution does not mean: preventing.

It means:

- **Step-by-step** development of necessary risk data.
- **Monitoring** to identify damage scenarios as early as possible in order to be able to react adequately.



# The role of a 'principle of innovation'

The claim: The precautionary principle focuses solely on uncertainties and risks, ignoring the opportunities associated with new developments.

The PP thus impedes or slows down technological progress, thwarting or delaying the introduction of novel, marketable products.

The PP 'inhibits' or is even 'hostile' to innovation and therefore needs to be supplemented by an 'innovation principle'.

➤ Is this criticism justified or is it a misinterpretation of the precautionary principle?



# The role of a 'principle of innovation'

- The focus in a precautionary situation is on the harm aspect.

**But: also the potential benefits do matter!**

- The relevant ethical theories make clear that potential benefits should also be investigated and data on the probability of these benefits materialising should be collected.
- Considerations on the innovation potential and associated opportunities are an integral part of a precautionary situation.

➤ The criticism that the precautionary principle is hostile to or inhibits innovation is therefore unfounded.



# The role of a 'principle of innovation'

- The PP is not a principle for evaluating risks, but rather a principle for dealing with situations of uncertainty in which such an evaluation is not yet possible due to a lack of risk knowledge.
  - Once this knowledge is sufficient, we can decide whether the risks, as now known, are acceptable or not.
  - Only then we can start to discuss how to include opportunities arising in this context.
- Here too, the label 'hostile to innovation' cannot be justified.



# “Late lessons from early warnings” (EEA)



Today, where technologies are taken up more quickly than before, and are often rapidly adopted around the world, risks may spread faster and further, outstripping society's capacity to understand, recognise and respond to these effects in time to avoid harm.

The experts recommend the wider use of the 'precautionary principle' to reduce hazards in cases of new and largely untested technologies.

**Precautionary actions can often stimulate rather than stifle innovation.**



# Thank you for your attention!