

RECIPES

Precaution • Innovation • Science

**Digital Workshop on
Aligning Precaution and
Innovation**

Workshop Information Package



Authors

Aske Palsberg, The Danish Board of Technology
Niels-Kristian Tjelle Holm, The Danish Board of Technology
Søren Gram, The Danish Board of Technology
Søren Mark Jensen, The Danish Board of Technology

Contributors

Pia-Johanna Schweizer, Institute for Advanced Sustainability Studies Potsdam
Ellen Vos, Maastricht University
Kristel de Smedt, Maastricht University
Miriam Urlings, Maastricht University
Rick Schumans, Maastricht University
Rosanne Edelenbosch, Rathenau institute
Petra Verhoef, Rathenau institute
Tijs Sikma, Rathenau institute
Marion Dreyer, DIALOGIK
Laura Elisabet Drivdal, University of Bergen
Jeroen Pieter Van der Sluijs, University of Bergen
Chiara Mazzetti, Ecologic
Heidi Stockhaus, Ecologic
Karl Lehman, Ecologic
Harald A. Mieg, Humboldt-Universität zu Berlin
Fritz-Julius Grafe, Humboldt-Universität zu Berlin
Zoya Damianova, ARC fund
Ventseslav Kazorev, ARC Fund
André Gazsó, Institute of Technology Assessment of the Austrian Academy of Sciences
Anna Pavlicek, Institute of Technology Assessment of the Austrian Academy of Sciences
Giovanna Declich, Knowledge & Innovation

Acknowledgments & Disclaimer

This project has received funding from the *European Union's Horizon 2020 research and innovation programme* under grant agreement No 824665.

Neither the European Commission nor any person acting on behalf of the Commission is responsible for the use which might be made of the following information. The views expressed in this publication are the sole responsibility of the author and do not necessarily reflect the views of the European Commission.

Reproduction and translation for non-commercial purposes are authorised, provided the source is acknowledged and the publisher is given prior notice and sent a copy.



The RECIPES project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 824665

Workshop Information Package II

Table of Contents

Introduction	3
Workshop using Decidim.	4
Definitions of guidelines and tools.....	5
Expanding on guidelines and tools	5
What is the basis on which the guidelines and tools will be developed?.....	5
Who are the target groups of the guidelines and tools?	5
What form might the guidelines and tools for example take?.....	6
Proposal for a Vision	7
A vision for the future implementation of the precautionary principle in the EU	8
More consistency, effectiveness, and efficiency.....	9
Improved alignment of the precautionary principle with foresight policy approaches	10
Improved communication, transparency and participation	10
Where in the implementation process could democratic dialogue and participation be strengthened?	11
Final Remarks	14

Introduction

This second document succeeds the introductory context-building text that you received earlier. It proposes a vision, fusing some of the perspectives expressed at the preceding workshops that several of you attended over the summer of 2020, creating a common ground for discussion on the potential tools and guidelines for the future implementation of the precautionary principle in the EU. It is important to note that the vision is intended to spark debate. You are welcome to share your views, concerns, agreements, and disagreements. Highly conflictual perspectives from the summer workshops were not included in the vision. Facilitators of the forthcoming engagement process that you are about to partake in will refer to these perspectives to stimulate the discussion. In the introduction of this document you will be provided with definitions and examples of tools and guidelines. This shall give you an idea of the formats that we expect to work with.

Workshop using Decidim.

As you have been informed, the workshop we have planned will be facilitated through the digital platform Decidim. Decidim is a public-common's, free and open, digital infrastructure for participatory democracy. It is an online platform, favoured by the European Commission as a tool for more deliberative democratic processes. In other words, Decidim is a platform worth getting to know. Decidim aims to engage citizens in what they call the network society: political relations on all levels are increasingly being determined by emerging technologies. At the same time, the legitimacy and sense of democracy is being questioned more and more. Decidim should thus be seen as a tool that appropriates the characteristics of a network society to increase deliberation in today's democracy.

In other words: this is not just an ideal solution in a time where physical contact has been limited – it is a steppingstone into a more deliberative democracy, where citizens and stakeholders are taken into account to a further degree. To read more about Decidim, please visit: <https://decidim.org/>

During the introductory meeting you will be instructed on how to use Decidim and you will be able to ask us questions regarding the process. During the workshop, you will also be able to contact the Danish Board of Technology for any questions or concerns.



Definitions of guidelines and tools

For you to get a clear understanding of the desired output of the upcoming workshop, we have provided definitions of a guideline and a tool, respectively. These definitions should aid you, when discussing the potential future implementation and application of the precautionary principle in the EU.

Guideline	Tool
- any guide or indication of a future course of action(s)	- anything used as a means of accomplishing a task or purpose

As such, guidelines delineate boundaries for further courses of action and provide consistency, whereas tools are methodology driven, contextually situated means to accomplish specific tasks. In other words, guidelines are overarching aims. Concrete tools should be offered that identify how to achieve these aims.

Expanding on guidelines and tools

The guidelines and tools shall help ensure an application of the precautionary principle that encourages innovation and promotes that precaution is a driving force in shaping and guiding innovation towards societally desirable goals with foresight and anticipation. In short, the guidelines and tools shall contribute to 'responsible innovation'. By responsible innovation we mean "taking care of the future through collective stewardship of science and innovation in the present"¹. Innovation can be technological inventions and also other kinds of changes such as organizational innovations. The guidelines and tools shall also help clarify the possible role of the innovation principle, as defined by the European Commission in its open innovation policy,² in the quest for responsible innovation.

What is the basis on which the guidelines and tools will be developed?

The guidelines and tools will be informed by the insights achieved from a stock-taking study on the precautionary principle and the innovation principle, several case studies, and the views and arguments of different groups of stakeholders elicited through interviews, webinars, and workshops including the digital workshop that this information input is for.

Who are the target groups of the guidelines and tools?

The main target groups of the guidelines and tools are policy makers and public authorities in the fields of risk and innovation governance at EU level. Secondary target groups are policy makers and public authorities in the fields of risk and innovation governance at national level, and stakeholders at EU and national levels contributing to, affected by, or interested in risk and innovation governance including non-governmental organizations, civil society organizations, industry/businesses, and research/academia.

¹ Stilgoe, J., Owen, R., Macnaghten, P. (2013). Developing a framework for responsible innovation. *Research Policy* 42, 1568-1580, here p. 1570.

² https://ec.europa.eu/info/research-and-innovation/strategy/goals-research-and-innovation-policy/open-innovation-resources_en.

What form might the guidelines and tools for example take?

The table below provides a few illustrative examples of possible guidelines and tools:

Guidelines	Examples of potential tools to accomplish this
That help understand and relate to the current debate around precaution and innovation, and facilitate a constructive debate	<p>A clarifying map of key issues and different perspectives and positions of stakeholders on these issues</p> <p>An accessible brochure providing an overview of existing proposals in academia and policy to connect the precautionary principle and precaution to concepts of 'responsible (research and) innovation', followed by an assessment of the bridge-building potential of these concepts in debates around precaution and innovation</p>
That help align precaution and innovation in innovation processes and innovation governance	<p>Tables, scheme's and charts providing an overview of possible role(s) that precaution-based approaches, as part of innovation governance, can play in different phases of the innovation process</p> <p>A two-pager with do's and don'ts / best practices providing suggestions for resolving bottlenecks and avoiding missed opportunities in applying precaution to innovation processes</p>
That help align precaution and innovation in risk governance	<p>An accessible brochure providing an overview of the role of the precautionary principle / precaution in relation to innovation in the key components of risk governance (framing, assessing, managing, communicating risks)</p>

Proposal for a Vision

This paper presents a suggestion for a vision for the future implementation of the precautionary principle in the EU, and it suggests some key elements which could support materialization of the vision.

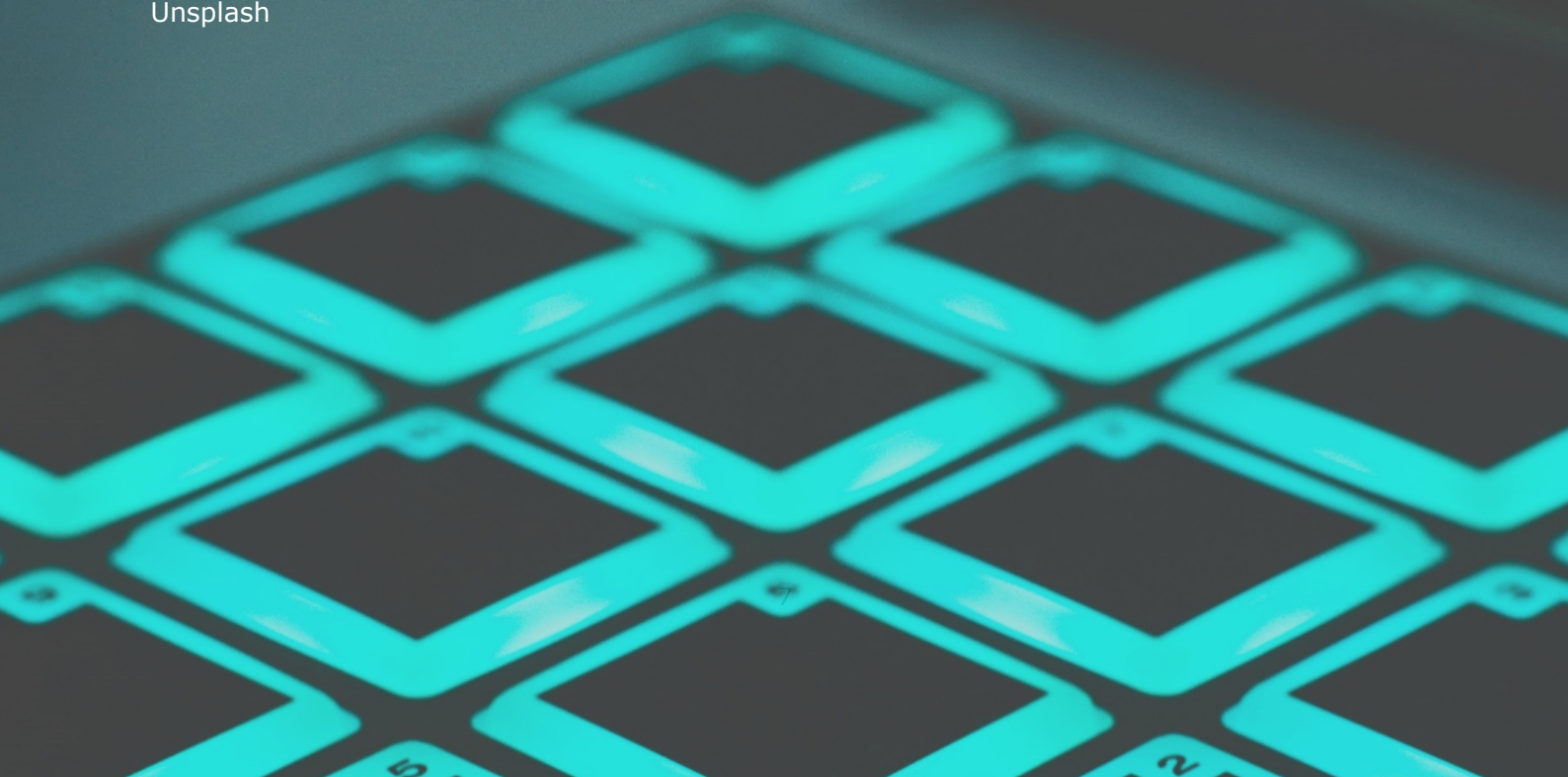
The vision and the underpinning key elements are a result of process within the RECIPES project, which took off with the study on the implementation and application of the principle in the EU since 2000, 5 member states' studies, a series of citizens meetings, and the 9 case studies. These were followed-up by development of three possible future scenarios for the implementation of the principle which were discussed at a series of workshops amongst a diverse group of stakeholders consisting of researchers, industry representatives, CSOs, and policy experts on the 9th to the 16th of June 2020. Based on the preceding research activities, stakeholders thus had an opportunity to present their own ideas for the future of the precautionary principle.

Based on these ideas put forth by stakeholders a suggestion for a vision was fused together. The vision is presented in the following section.

Both desk research and the preceding stakeholder workshops showed: There are varying and partly contrasting stakeholder views of how successful the current implementation of the precautionary principle is in the EU of today, whether it is required to adjust and improve its implementation, and how this could be done. At the same time, the stakeholder workshops suggested that there is also common ground between stakeholders. The vision suggested in this document is composed of a couple of building blocks that we deem to be part of this common ground.

The main purpose of the vision presented in the following is to facilitate dialogue and discussions amongst RECIPES members, on the future application of the precautionary principle in the EU, and on tools and guidelines that, in the perspective of stakeholders, could help in aligning precaution and innovation for sustainable and responsible innovation.

Photo by Andreas Forsberg on
Unsplash



A vision for the future implementation of the precautionary principle in the EU

Although there are varying views on how successful the current implementation and application of the precautionary principle is in the EU of today, and thus also on the need to adjust and improve its implementation, we see common ground between stakeholders which we describe in this vision:

Implementation of the precautionary principle shall ensure a high level of proactive protection of human health and the environment and stimulate societally desired innovation

According to the insights from the RECIPES research activities so far, the achievement of this vision will demand:

- Improved understanding of the requirements of flexibility and consistency in the application of the precautionary principle for an effective implementation of the precautionary principle at EU and member state level.
- Improved alignment of the PP and precautionary approaches with EU and member states foresight policy approaches and objectives.
- Improved understanding of the possible role of the PP and precautionary approaches in the different phases of the innovation process and of possible ways in which stakeholders and the broader public could participate in efforts at aligning precaution and innovation in these different phases of the innovation process.

The figure below illustrates important elements to underpin the implementation of the vision for the future implementation of the precautionary principle in the EU.

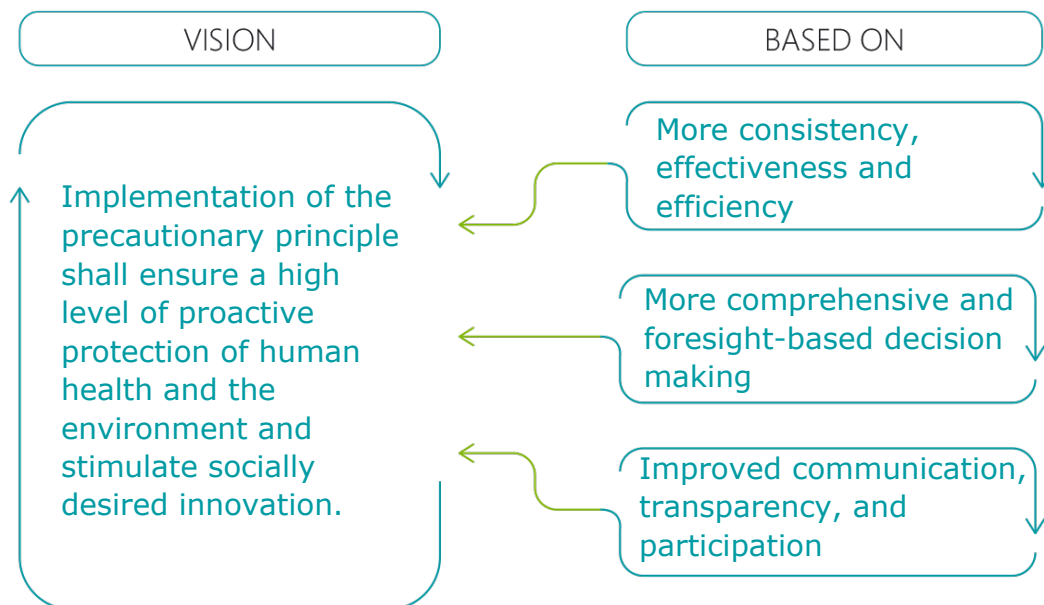


Figure 1: Improved understanding of the requirements of flexibility and consistency in the application of the precautionary principle for an effective implementation of the precautionary principle at EU and member state level

More consistency, effectiveness, and efficiency

Questions and Issues:

- Is there a need for a uniform definition of the precautionary principle?
- Do we need more precise definitions of the conditions which shall lead to invocation of the principle (risk of significant damage; when and how to revisit and apply new scientific knowledge; how to carry out impact assessments)?
 - Is there a need for further analysis into the areas where different current practices within economic sectors and across member states lead to undesirable inconsistencies and uncertainties?
- Is there a need for common and sector-cross-cutting definitions of products and technologies (e.g. what defines an “endocrine disruptor”, a “pesticide”, a “microplastic”)?
- Is there a need for updated and mutually consistent sector-specific risk assessment and decision-making guidelines and tools?
 - Do existing regulatory regimes need to be amended to address new and emerging technologies?

Ideas for increased consistency, effectiveness, and efficiency could all feed into subsequent adjustments, or to a new and updated European Commission communication on the application of the precautionary principle in the EU, to revised sector and member states’ regulatory schemes, and to updated or new regulatory schemes for new and emerging technologies.

Such a new communication could be accompanied and underpinned by guidelines and tools.

Improved alignment of the precautionary principle with foresight policy approaches

Questions and Issues:

- Should the current scope of risk assessments, risk management and decision-making regarding approval or dismissal of new products and technology be broadened to consider impacts on the achievement of overarching policy goals (e.g. competitiveness, innovation, and climate mitigation and adaptation)?
- The development within new and emerging technologies may, due to their speed and size, in the near future pose new risks, which may only partly be assessed when applying the present regulatory set-up.
 - Could an increased use of foresight support decision-making regarding such technologies?

Improved communication, transparency and participation

Questions and Issues:

- How do we ensure a clear and consistent communication to relevant stakeholders and citizens regarding the implementation and application of the precautionary principle?
- How do we improve transparency in the processes underlying assessments for the application of the precautionary principle?
- Is it useful and/or possible to develop strategies for more systematic and qualified involvement of all relevant stakeholders?
- It is not possible nor preferable to involve all relevant stakeholders and to undertake comprehensive participatory processes in all cases where a new technology or product is subject to risk assessments and decision-making.
- Where in the implementation process could democratic dialogue and participation be strengthened?

Improved participation has been noted as a particularly important aspect of the future implementation of the precautionary principle. Due to this importance, as well as the complex nature of policy development, where the precautionary principle is applied, the subject has been elaborated in the following section. We will present an overview of a simplified normative policy development process, in which we highlight examples of potential areas, where the democratic dialogue and participation could be strengthened.

Where in the implementation process could democratic dialogue and participation be strengthened?

The illustration below indicates that public policies *and* legislation set a frame for, and impact on, risk assessments and decision-making in accordance with the precautionary principle (square to the left). Thus, the flow of implementation of the precautionary principle goes from the top left box and through the three smaller boxes to its right, in the area marked with a blue colour. The three boxes below, marked with a grey colour, indicate where more regular, systematic and democratic dialogue and involvement may be established. These three boxes have been elaborated upon in the next section.

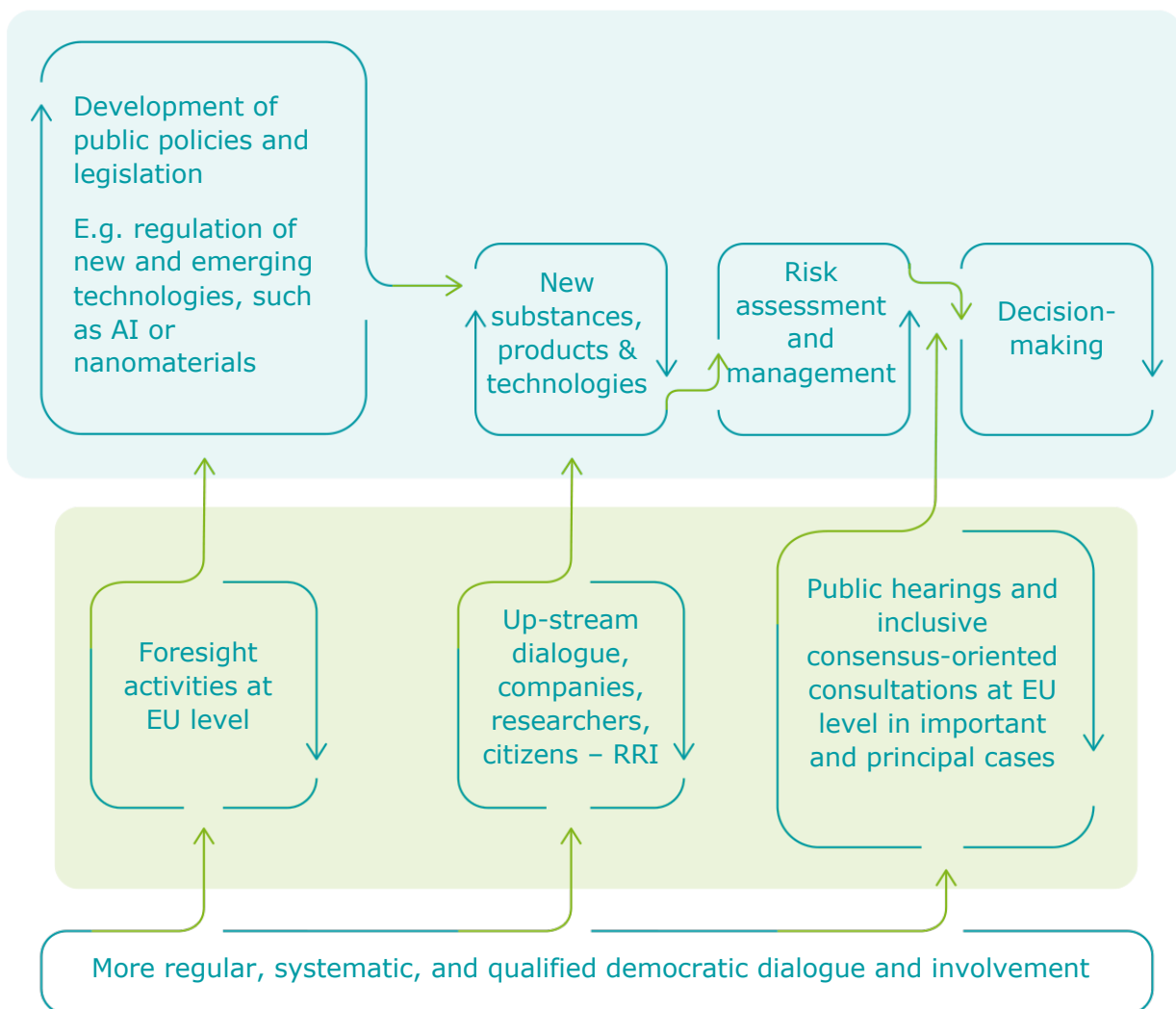


Figure 2: Areas within the implementation of the precautionary principle where democratic dialogue and participation could be strengthened

Foresight at the EU-level

Application of the precautionary principle in concrete cases happens within a frame set by public policies, legislation and guidelines. When considering how application of the precautionary principle can be improved and better facilitate achievements of policy goals, it is therefore appropriate to first focus on the creation and adjustments of this overall political and legal framework for the implementation of the principle.

For foresight approaches to deliver societally grounded and sustainable solutions, broad participation is pivotal to considerations on preferred development pathways and preferable visions for the future.

Amendments to, or a more comprehensive revision of, the EU Communication on the application of the precautionary principle from 2000, could be informed by foresight approaches.

Here it would be important to ensure involvement of relevant stakeholders and citizens of the EU. National and/or EU level consultations or consensus conferences could be tools contributing to ensuring quality and credibility of such processes.

Upstream dialogue and involvement

Before new technologies are developed or new products are ready for approval applications, inventors and producers will often endeavour to acquire knowledge about consumers' and users' interest in their new product. So, already upstream in the development and production process there may be dialogue between industry representatives, researchers and segments of citizens.

Also, in some cases the European Commission, the European Parliament or member state governments take initiative to establish broader, non-traditional risk assessments, including more stakeholders in possible development pathways, for instance for new technologies. Such interactions have in particular taken place in connection with the development of nanotechnology and nanomaterials in the EU, where participatory methods (such as Delphis, Focus Groups, and Scenario Building Exercises) for Responsible Research and Innovation (RRI)³ have played an important role in facilitating active stakeholder involvement and common understanding and prioritization.

However, such upstream processes are often of an ad hoc nature as there exists no general obligations in the EU requesting such endeavours.

³ <https://ec.europa.eu/programmes/horizon2020/en/h2020-section/responsible-research-innovation>

Public hearings and inclusive consensus-oriented consultations

In the EU, the European Commission needs to ask scientific authorities (e.g. EFSA or ECHA) to assess new technologies' or products' potential risks, based on available scientific evidence. The assessments by these bodies form the basis of a draft decision of the Commission which the Commission subsequently refers to competent committees with member state representatives (comitology). In this process, member states and the European Commission try to reach a unanimous decision. Where no agreement can be reached between the Commission and the member state representatives in view of political sensitivities, this can lead to the situation where decision-making by the Commission is blocked and hence no decision will be adopted. In such decision-making process there is no opportunity for stakeholders or citizens to be involved.

In other processes, where the Commission would like to reflect on the need for legislative action or is in the process of drafting a legislative proposal, there are built-in democratic opportunities for citizens, interest groups etc. to raise concerns (through EU level public hearing procedures, through the European Parliament etc.). To make extra efforts to intensify and qualify more stakeholder involvement in all individual cases where for example decisions on the authorization of particular products or substances are dealt with is therefore not relevant.

There are however several situations, where there exist scientific uncertainties about possible risks and where potential risks, costs and benefits must be considered, it would be of key importance to apply systematic and qualified involvement in order to facilitate sustainable solutions.

Risk assessments and decision-making in the EU regarding for example GMOs, glyphosate and endocrine disruptors are complicated and long-lasting and surrounded by much public -- and at times very emotional -- sentiments. In these and similar cases, before dealing with each decision separately, input from a broad range of relevant stakeholders (including from representative samples of citizens) could help to inform balanced and faster decision-making.



Final Remarks

This document should have provided you with an overview of the discussions from the workshops that several of you attended over the summer of 2020 and the proposed vision, fusing some of your perspectives, creating a common ground for discussion on the potential tools and guidelines for the future implementation of the precautionary principle in the EU.