

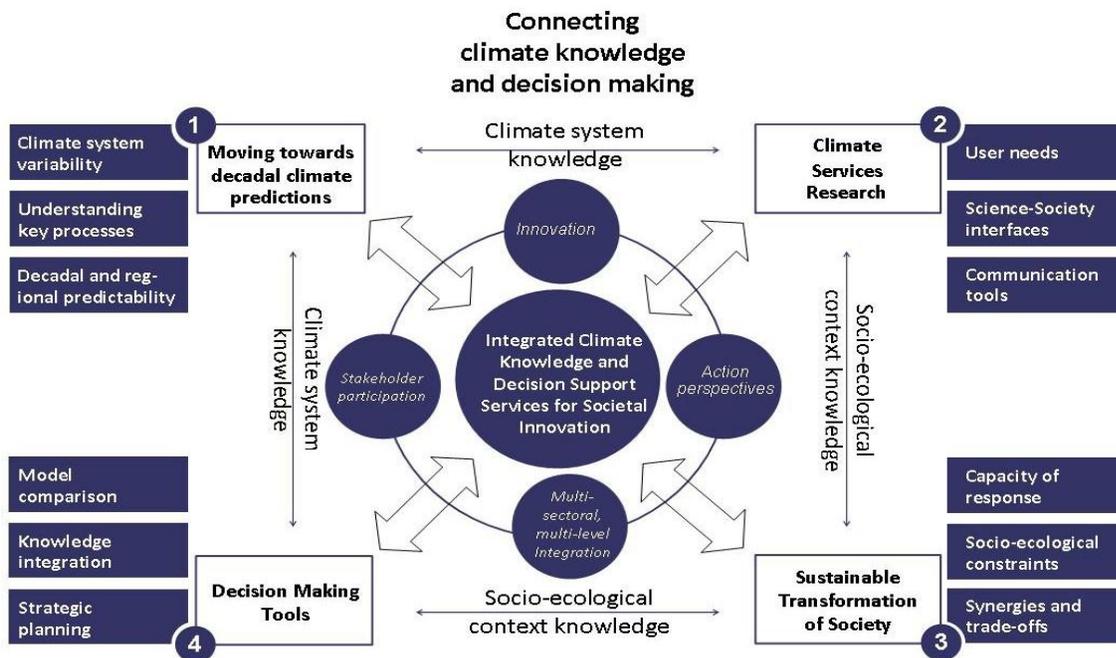
## JPI Climate Framing Principles

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This document proposes a set of framing principles to guide the ongoing work and further development of JPI Climate. JPI Climate’s main goal is to close critical knowledge gaps by combining and connecting climate-related scientific approaches through a systemic approach that considers the complexity of our social, economic and ecological systems to cope with climate change and to take responsibility for reducing and avoiding the negative consequences of climate change. The structure of JPI Climate into four different working groups or modules facilitates work towards this main goal, but it may also lead to fragmentation, particularly because of the barriers across disciplinary perspectives, and especially because of the gaps between the natural, social and human sciences.

In this note we argue that JPI Climate’s main goal calls for a reflexive approach to how climate change and approaches for addressing it are framed, what knowledge is needed, knowledge about what, and knowledge for whom. Equally important is to reflect on what knowledge be used (or not used) and why. Such a reflexive approach should be embedded within JPI Climate norms and ways of working, as well as periodically reviewed.

We propose a set of principles, JPI Climate Framing Principles, that can guide the activities of all working groups participating in JPI Climate to assure the result is a holistic and unifying perspective that answers the central question stated in the center of the figure below that illustrates the scientific structure of JPI Climate; “Integrated climate knowledge and decision support services for societal innovation.”



***The first principle*** is a reflexive approach to the theme of climate change itself and attention to the way in which it is framed. What type of problems does climate change present, is it environmental, technological, or rather an issue related to behavior, beliefs, interests, political economy, or ideas and institutions pursuing progress and wellbeing? We know that climate change science has framed climate problems as environmental and technical challenges. And key policy instruments used to address the challenges are market-based tools (carbon markets, taxes, subsidies for clean technologies, etc). But neither the framing nor the tools address systemic and structural issues, nor do they touch upon internal matters such as belief systems, people's aspirations for their future, or social practices and existing institutions. The fact that there is little research focused on these aspects of climate change reflects the dominance of a framing of climate change that is incomplete.

This first principle calls upon all activities proposed by JPI modules to *make explicit how they frame climate change*, as to assure it addresses more than environmental challenges or tasks for the market, and that such framing speaks to people's beliefs, incentives and institutional systems. This is key to producing knowledge that is credible, salient and legitimate, and thus more effective.

***The second principle*** we propose is *self-reflection on knowledge itself*. We suggest all JPI activities ask what knowledge and whose knowledge is needed for the work they propose, and that they also ask how that knowledge can and should be used. These types of questions should inform and guide the JPI activities. This goes beyond the question of uncertainty (what is and what is not known in a given technical domain) and asks instead the deeper question of what kind of knowledge (cognitive, normative, pragmatic) is needed to enable connectivity between science and with action.

This principle leads to self-reflection about the limits of scientific knowledge and new forms of understanding and dissemination through co-production, which in the case of climate change may entail co-production with a wide variety of users (from farmers to engineering entrepreneurs to policy makers). Attention to this second principle along with attention to the framing of climate itself may enable JPI to identify more clearly means of enhancing the uptake of outputs, even where there is skepticism about climate change as a reality or an emerging risk.

***The third principle*** calls for *explicit awareness of policy and transitions processes*. All JPI Climate modules have the goal of not only producing new knowledge, but also *making knowledge relevant and useable* and contributing to societal innovation. Reflection on whether knowledge contributes to societal processes creates attention for the factors and conditions that make knowledge credible, salient and legitimate across different actors. Policy and transitions processes involve contestation and conflict. Knowledge is employed by interested parties as one resource among others, to shape problem perceptions, configure interests and privilege particular response options. Producers of knowledge need to be aware of its practical uses and respond to the different societal contexts in which knowledge has its effect.

This principle will lead to questions such as: Why and when is knowledge functional to decisions, choices and actions? How does knowledge contribute to policy effectiveness? What is the role of the expert in contested social contexts? This third principle may lead to think creatively about co-production of knowledge and action, but also about the opposite situation in which knowledge claims are rejected or used destructively in public and policy processes.

**The fourth principle** calls for integration and coherence across all the modules in JPI Climate.

Although the 4 modules have teams of scholars within concrete areas of work and disciplinary backgrounds, there is a risk some modules perceive themselves as being from the natural sciences and others from the social sciences. This is a false dichotomy that would break the coherence of JPI Climate. Modules 1 and 2 are directly related because climate predictions and services need to respond to users' needs and science and society interfaces, yet both are also directly linked to the factors that can enable European societies to achieve a transition to low-carbon sustainability (Module 3), while at the same time being related to the ways in which solutions and decision making tools (Module 4) are framed. Sustainable transformations of society are not something people just agree, partly because there are many different visions in society about what constitutes sustainability and there are different interests in future developments. Often a societal goal will be related to the types of decision making tools used and the way these frame the different societal domains that need to be "transformed".

We suggest that these four principles are adopted by JPI Climate Governing Board as a means to facilitate the integration of all the activities and work proposed by the four modules:

- o a reflexive approach to climate change itself and attention to the way in which it is framed
- o self-reflection on knowledge itself
- o investigation that explicitly considers policy and decision processes in their framing
- o integration and coherence across all the modules that compose JPI Climate

These *JPI Climate Framing Principles* facilitate the connection between research processes and societal processes and stimulate an interactive understanding of the relation across the themes of the working groups (where 1 informs 2 and 2 informs 3 and 3 informs 4). They may prevent the building of territorial boxes, where 1 module becomes the stronghold of a concrete scientific group (for example the view that the natural sciences are concentrated on module 1 and social sciences are primarily concentrated in module 3). The principles assure a more effective and creative dynamic, and enable and encourage the different modules to work in a more integrated manner. The JPI Climate Governing Board can create a system to communicate these principles to JPI Climate stakeholders, and then establish a protocol to review their relevance and effect through, for example, research that crosses and links the modules activities and annual meetings bringing together research teams.

We propose that a JPI Climate Transdisciplinary Board is established as the custodian for these principles and that it develops a process of monitoring their application by all fast track and other initiatives undertaken by JPI Climate teams, and to review the principles periodically.