JPI CLIMATE

International Research Leaders’ Positions on

Societal transformations in the face of climate change

Research priorities for the next decade

Climate change creates new challenges for the global society. Responding to climate change is a complex process of societal transformations that should be studied as such. The contribution of the social sciences is crucial to the understanding of these processes of change. The growing body of knowledge on the physics of climate change, its causes and consequences is not matched by an equivalent understanding of the societal challenges it poses. The Joint Programming Initiative on ‘Connecting Climate Knowledge for Europe’ (JPI Climate) identifies key topics for future social science research.

Societal transformations

Responses to climate change are not only a matter of infrastructural adjustments, like building dikes, or technical innovations such as implementing renewable energies. They also include fundamental changes in our way of living, urban and regional planning, mobility patterns, land and water use, production processes, consumption patterns, nature conservation, and energy demand. Climate change responses also challenge the ways that humans think about and interact with the environment and each other. As such, all climate challenges are also societal challenges. Thus, it is fair to say that effective responses to climate change involve complex processes of societal transformations that should be studied as such. The concept of ‘societal transformation’ refers to alterations of society’s systemic characteristics and encompasses social, cultural, technological, political, economic and legal change.

Distinction between ‘scientific analysis of …’ and ‘scientific analysis for …’

The social sciences always perform a dual role, being a critical observer and independent messenger on the one hand (providing explanatory, evaluative and predictive knowledge) and, on the other hand, being a co-designer of relevant and effective solution strategies (providing prescriptive, strategic and instrumental knowledge). Therefore, there is a need to make a distinction between ‘scientific analyses of societal transformations under climate change’ (the analytical perspective; trying to understand societal changes) and ‘scientific analyses for societal transformations under climate change’ (the normative perspective; trying to contribute to successful societal changes). In practice, however, these two roles will be very much interconnected.
JPI CLIMATE research programming

The Joint Programming Initiative on Connecting Climate Knowledge for Europe (JPI Climate) acts as a strategic platform for aligning national research priorities in the area of climate research and also for launching joint activities. It has thirteen member countries (Austria, Belgium, Denmark, Finland, France, Germany, Ireland, Italy, Norway, Spain, Sweden, the Netherlands, and the United Kingdom). JPI CLIMATE contributes to coordinated knowledge development by improving the scientific expertise on climate change and connecting that knowledge to decision-making on climate change adaptation and mitigation.

This fact sheet presents the key topics for future social science climate research and is based on intensive discussions among European research leaders. With this fact sheet we aim to clarify what social sciences can contribute to the societal challenges that climate change imposes and to stimulate the scientific and societal debate about relevant directions for future research.

Ten pressing social science research topics regarding climate change

1. What are plausible socio-economic scenarios for societal transformations in response to climate change and what do these scenarios entail, for whom and with what consequences?

2. What are the processes through which societal transformations related to climate change may take place and to what extent can they be influenced?

3. How is the ability of societies to respond to climate change enabled and constrained by other social, ecological and political dynamics and what strategies are there to successfully deal with these interconnected dynamics?

4. What forms of social and cultural meanings is climate change taking, and what is the significance of these for understanding societal transformations in the face of climate change? How and in what direction can such meanings be reshaped?

5. What are the roles of specific concepts within the climate change debate - like vulnerability, resilience, adaptive capacity, (ir)reversibility, lock-in, adaptation and mitigation - and what are their implicit and explicit normative connotations?

6. How are questions of social justice, participation, and the distributive effects of climate changes addressed in current societal debates, policies and legislation? How should they be addressed in transformative agendas?
7. **What constitutes the governance of societal transformations in light of climate change?** How is the governing of climate change at different levels being accomplished and contested, by whom and through what means, and with what consequences? What changes in modes of governance would be essential for transformative processes?

8. **What is the role of economy and finance in climate change mitigation and adaptation?** What new forms of climate finance and low carbon economies are necessary and feasible?

9. **To what extent has the increased level and quality of climate science had an impact on policy and societal decision-making, and how can this be explained?** What are the implications for organising effective science-policy interactions in the future?

10. **What is needed for further integration of social science knowledge in agenda-setting and issue-framing in climate change research and policy-making?**

The need for multi-, inter- and transdisciplinary research approaches

Climate change creates new societal challenges, including the need to transform energy systems away from a dependence on fossil fuels and the need to protect citizens, business and nature from climate risks. Climate change is a complex reality, which affects society at large. Understanding and responding to climate change requires coordinated and large-scale efforts – not only in Europe, but also across the globe – in research, knowledge dissemination, innovation and governance.

The above-mentioned research topics have been developed with the aim of contributing to theoretical and empirical advancements as well as to policy engagements. We wish to emphasise the need for integrative studies of societal transformations (including analyses of multiple drivers of change) and for multi-, inter- and trans-disciplinary research approaches. Intensive cooperation between different scientific disciplines and between science and society in this field is a key challenge. Connecting different disciplinary approaches in natural and social sciences will lead to research efforts of higher scientific quality and societal relevance. Furthermore, integrating science and society could increase the reflexivity and relevance of climate research and will contribute to a better application of knowledge and policy recommendations.
Background

This position paper has been prepared on behalf of the JPI CLIMATE Governing Board as product of the Fast-Track-Activity ‘Scoping, Reviewing and Facilitating Social Science contributions to Climate Change Research’ (FTA3.1) with financial support by AKA (Finland), AllEnvi (France), BELSPO (Belgium), BMBF (Germany), BMWF (Austria), DCSR (Denmark), FORMAS (Sweden), Knowledge for Climate (the Netherlands), RCN (Norway) as well as their national partner institutions.

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Picture sources:
Colourbox.com and Linn Bryhn Jacobsen

Further reading

A more elaborated version of the paper will soon be available and is now under review:
Driessen, P.P.J. et al.: Societal transformations in the face of climate change. Research priorities for the next decade (under review).

In this full paper the research questions for the next decade are grounded in the wider literature in the field to demonstrate that the relevance of these research topics – without any prioritisation – is broadly recognised by the social science climate research communities. Moreover the Strategic Research Agenda of JPI CLIMATE is available under www.jpi-climate.eu

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