



## **JPI CLIMATE Scoping Process**

"Societal Transformation in the face of Climate Change"

*Synthesis Report*

**Editors: JPI CLIMATE Working Group 3**

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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.

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## Setting the European Research Agenda on Societal Transformation in the face of Climate Change

JPI CLIMATE is setting a European Research Agenda for better understanding and enabling societal transformations in the light of a changing climate. This requires input from different areas of science and society. It calls for active knowledge exchange between decision-makers, international research leaders and the research leaders of tomorrow to develop insights, visions and promising ideas. The European Joint Programming Initiative 'Connecting Climate Knowledge for Europe' (JPI CLIMATE) has been doing exactly that.



This report synthesizes the results of the JPI CLIMATE scoping process on 'Societal Transformation in the face of Climate Change' in the years 2012 and 2013. The scoping process has been structured along a **series of three agenda-setting workshops** organized by the European JPI CLIMATE :

- **International Research Leaders** (October 2012)
- **Future Research Leaders** (June 2013)
- **Societal Stakeholders and Change Agents** (October 2013)

As alliance of European research funders JPI CLIMATE aims at supporting European research to tackle the societal challenge of climate change through collaborative, trans-national research funding.

**References** to the full documentation of agenda setting workshops on transformation research can be found at the bottom of this paper.

### Societal transformations

Responses to climate change are not only a matter of infrastructural adjustments such as 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 in which we think about and interact with the environment and each other.

As such, all climate challenges are also societal challenges. Thus, effective responses to climate change involve complex processes of societal transformations. Research into these processes requires collaboration between researchers, stakeholders and practitioners, applying deliberative forms of knowledge co-creation and utilisation. The concept of '**societal transformation**' refers to societies' systemic changes and encompasses social, cultural, technological, political, economic and legal changes.

## 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



effective solution strategies (providing

predictive knowledge) and, on the other hand, being a co-designer of relevant and



prescriptive, strategic and instrumental knowledge).

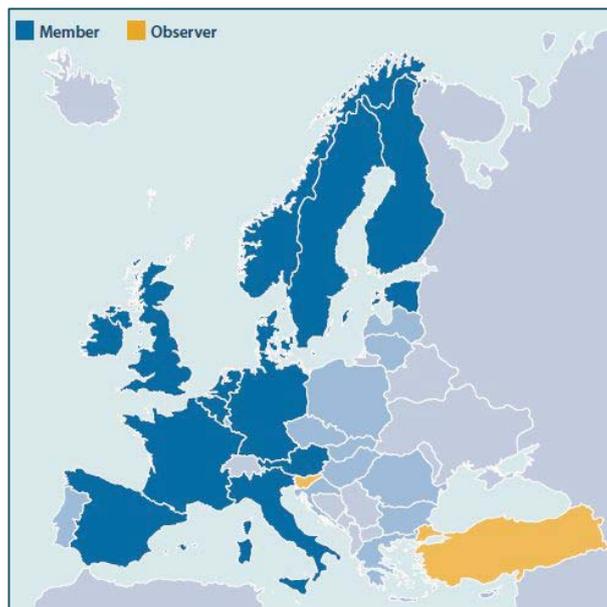
Therefore, there is a need to make a distinction between ‘scientific analyses of

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 are often 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 funding activities.

It has fourteen member countries (Austria, Belgium, Denmark, Estonia, Finland, France, Germany, Ireland, Italy, Norway, Spain, Sweden, the Netherlands, and the United Kingdom).



JPI CLIMATE contributes to the coordination of knowledge development and connection of that knowledge to decision-making on climate change adaptation and mitigation. The aim is to move towards a climate-friendly and climate-proof Europe and to meet the target of becoming an energy-efficient and low carbon economy.

## Research priorities:

# Societal Transformation in the face of Climate Change

### *1. Meeting the challenge of climate change is about people, not carbon*

Both climate change and transformations towards a climate-friendly and climate-proof Europe take place in a multi-faceted societal context where short-term imperatives tend to dominate, making it challenging for climate change science to influence policy-making. Sustainability objectives need to meet people's visions and needs and research should investigate actors' diverging interests, values and resources.

There is a strong connection between social, technological, economic and political changes and anthropogenic climate change. These changes may affect negatively or positively the climate challenge, even if they are motivated independently from climate change issues. What type of changes are positive and potentially significant for a climate-proof future and how can these be accelerated and supported? What are the key features of such societal changes? How is the ability of societies to respond to climate change enabled and constrained by these other dynamics? These questions call for new policies and practices that allow for reflexivity, experimentation and learning.

Research perspectives that see climate change in its societal context may also help elucidate what is effective climate change education and information in an increasingly connected society.

### *2. Understanding social change across time and space*

Limiting global warming to 2°C will require an unprecedented reversal and accelerated reduction of greenhouse gas emissions. Adaptation to climate change may require large social changes in many places. This raises a set of questions about the nature of processes and pathways through which positive transformations may take place and how they can be influenced and accelerated in democracies. What are the feedback loops between different levels ("bottom-up" and "top-down" change, from the individual to the global) and between different timeframes (incremental/short-term and transformative/long-term)? How do different actors influence each other? What characterises political decisions that 'snowball' and trigger positive or negative feedback loops that can reverse trends and accelerate change? An integrated understanding of these relations will typically require multi-, inter- and trans-disciplinary research.

In the absence of successful large-scale examples of accelerated emission reductions, the more relevant research directions may not necessarily be directly related to climate change. At its most fundamental level, the climate change challenge is to forego individual and short-term economic interests in favour of a public good (the climate as we know it) and long-term interests. Comparative studies and historical analogues could provide a rich source of empirically-based knowledge.

### **3. Rules of the game**

Anthropogenic climate change is the result of social and economic activities that operate within a framework of public policy. The actual outcomes of public policy responding to climate change remains a key research question. What are effective, efficient and legitimate government decisions for technological and social innovation aimed at sustainable societies?

Because of the long-term features of climate change, finance is crucial for both mitigation and adaptation. What is the role of finance and how could this change? What are the leverage points for governments to trigger change?

More fundamentally, transforming the economy requires challenging mainstream economic models and acknowledging non-monetised values, human well-being goals, long-term and public goods. What are the alternative metrics that make sense to and motivate different actors, as alternatives or complements to conventional monetary metrics?

There is also a need to understand how decision-making processes (both public and private) can be improved by, for example, better alignment of the interests of decision-makers with the long-term and public good aspects of meeting climate challenges.

### **4. Understanding risk and uncertainty**

Climate challenge is a complex and wicked problem. While uncertainties are common for all social systems, the possibility of catastrophic impacts and irreversibility of change in the natural environment – and their social repercussions –

raise particular challenges for socio-economic modelling.

Not only are the risks associated with climate change poorly reflected in the models dedicated to take account of climate change, but also most individual decisions (by governments, companies and households) that affect future mitigation and adaptation to climate change are taken without sufficient account of such risks.

As climate change is still often understood in terms of "forecasts" rather than "risks" (despite the IPCC's risk-based approach), society's implicit acceptance of risks associated with climate change is incommensurately higher than its acceptance of risks in our everyday lives. Why is this the case and how can it change? How do people perceive risk? How can the objective of resilience be better integrated into decision-making?

### **5. Rights and responsibilities**

Climate change has not only challenged our technical and scientific capabilities in the face of uncertainties and contingencies. Fundamentally, our responses to climate change reflect implicit or explicit moral and ethical choices that need to be informed not by natural sciences but by insights from humanities and social sciences.

Protection from environmental harms (such as extreme weather events) is unevenly distributed across the world, with those who are least responsible for anthropogenic causes of climate change destined to suffer most from its impacts. Climate change will exacerbate what is already a highly unequal world. What principles or moral

compass do we need to guide us to prevent this to happen?

With rights come obligations and responsibilities. However, the knowledge, capacity and will to act responsibly towards climate change mitigation are also unevenly distributed. What are the critical justice questions that have emerged from climate

change, in relation to both distribution of benefits and harms and participation in decision-making processes?

In the context of an unequal world and a changing climate, who is entitled to what and who is responsible for what remain critical moral and ethical questions.

## Background

This synthesis report 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), BELSPO (Belgium), BMBF (Germany), BMWFW (Austria), DCSR (Denmark),

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Working Group 3 on Societal transformations in the face of Climate Change (WG3) has been established by the Governing Board of JPI CLIMATE to inform and prepare European research programming actions in JPI CLIMATE.

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