

SOLSTICE:

Enabling Societal Transformation in the Face of Climate Change

JPI Climate

The **Joint Programming Initiative "Connecting Climate Knowledge for Europe"** (JPI Climate) is a pan-European intergovernmental initiative gathering European countries to jointly coordinate climate research and fund new transnational research initiatives that provide useful climate knowledge and services for post-COP21 Climate Action.

JPI Climate connects scientific disciplines, enables cross-border research and increases the science-practice interaction. JPI Climate contributes to the overall objective of developing a European Research Area and to underpin the European efforts in tackling the societal challenge of climate change.

SOLSTICE

The JPI Climate launched a Joint Transnational Call for research proposals in 2019 SOLSTICE: *Enabling Societal Transformations in the Face of Climate Change*. This Call was organised by the funding organisations of the following participating countries: Austria, Belgium, Czech Republic, Finland, France, Ireland, Italy, Latvia, Norway and the United Kingdom.

SOLSTICE was a funding opportunity for proposals led by the Social Sciences and Humanities communities that contribute to a better understanding of how climate change affects society. Our aim was to support impactful projects that can trigger transformational change.

The Call had an indicative budget of 6.9 Mio. € to support international research projects with a duration of up to 3 years. The SOLSTICE Joint Call was structured into three interlinked themes:

- **Social justice and participation**
- **Sense making, cultural meaning and risk perceptions**
- **Transformative finance and economy**

The following 7 projects, listed below with their project abstracts, were ultimately selected for funding:

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PROJECT: CCC-CATAPULT

PROJECT TITLE

Challenging the Climate Crisis: Children's Agency to Tackle Policy Underpinned by Learning for Transformation

YOUR PROJECT IS RELATED TO

Sense making, cultural meaning and risk perception

CONSORTIUM

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P 2	Dr Deepak Gopinath	University of the West of England	United Kingdom
P 3	Dr Sara-Jayne Williams	University of the West of England, Bristol	United Kingdom
P 4	Dr Inkeri Rissanen	Tampere University	Finland
P 5	Dr Gary Goggins	National University of Ireland Galway	Ireland
P 6	Prof Ilaria Gnecco	University of Genova	Italy
P 7	Dr Laura De Vito	University of the West of England, Bristol	United Kingdom
P 8	Prof Frances Fahy	National University of Ireland Galway	Ireland

ABSTRACT

There is emerging consensus that lack of effective climate leadership, combined with institutional inertia and confused governance mechanisms, is resulting in widespread climate indifference or extremism. Our consortium seeks to co-create new knowledge through the 'eyes and ears' of children, teachers and other supporters of learning on how they situate and make sense of their lives in relation to climate complexity and cultural shifts. Using a youth-led methodology, the Challenging the Climate Crisis: Children's Agency to Tackle Policy Underpinned by Learning for Transformation project (CCC-CATAPULT) aims to critically examine educational, worldview and intercultural influences on children's climate and environment-focused learning and agency at a time when 'eco-anxiety' is starting to become a defining characteristic of the climate emergency. This has ramifications for young people. Taking this as a starting point, the CCC-CATAPULT project proposes creation of a fully blended transdisciplinary conceptual framework synthesized using multiple knowledges, literatures, methodologies and impact pathways. The conceptual framework will be used as a balanced lens through which researchers from different disciplines and geographical contexts (case study cities) simultaneously undertake empirical research that accommodates interdisciplinary viewpoints but without any dominating, either conceptually or methodologically.

From initial consideration of these perspectives, our overarching areas of enquiry are: How do we ensure young people become 'climate literate'? And when they are, how do we ensure that literacy does not become overwhelming? Could knowledge and/or experiences of climate impacts during youth impede or nurture climate literacy? Could experiences of intercultural collaboration and dialogue nurture reduced eco-anxiety and empower young people? How do young people, teachers and other key actors shaping the learning of children, understand the value-action gap in tackling the climate emergency? Could intercultural and intergenerational experiences positively or negatively influence the value-action gap? What might legitimate transformation look like to young people going through different processes of sense-making and cultural meaning formation in relation to reducing the value-action gap? To explore these areas of enquiry our interdisciplinary consortium (with case studies in England (Bristol), Ireland (Galway), Finland (Tampere) and

Italy (Genoa) will address the following Objectives: (1) explore sense making and existing and potentially new social norms, worldviews, possible tensions and ecoanxieties; (2) co-create a vision for transformed climate-focused education in each context; (3) deep map insights and actions to enable transformation; (4) co-develop a methodology and toolkit to better link education and worldview knowledge with policymaking; (5) codeliver and evaluate a set of research-informed activities inside and outside of educational settings; and (6) co-develop policy and practicefocused recommendations.

Our consortium draws together intercultural experience in engaged research into different knowledges and sense-making, understandings of citizenship and learning for resilience. Asking young people to directly take part in research will contribute to personal development, confidence and resilience. The project will also indirectly impact parents, grandparents, peers and wider networks of educators and young people through an extensive communication and dissemination programme that embeds beneficiaries at its heart. We aspire to generate impactful research evidence across cultures on the agency of young people as active citizens who can reduce the value-action and intergenerational learning gaps through influencing education and policy making for societal transformation in a climate uncertain future.

PROJECT: Just-Scapes

PROJECT TITLE

Environmental justice analysis to advance rural landscape transformations in the face of climate change

YOUR PROJECT IS RELATED TO

Social justice and participation
Sense making, cultural meaning and risk perception

CONSORTIUM

P 1	Prof Adrian Martin	University of East Anglia	United Kingdom
P 2	Dr Brendan Coolsaet	Lille Catholic University	France
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P 4	Dr Cecile Barnaud	INRAE	France

ABSTRACT

Climate change is forcing European countries to implement transformative changes to multiple sectors. Whilst energy and industrial production systems have dominated these agendas, there are also growing calls for transformations in rural areas, including potentially profound repurposing of rural landscapes. Academic research has mainly focused on the biophysical potential for such repurposing, including actions such as afforestation and livestock removal, to mitigate and adapt to climate change. We now need to complement this technical assessment with research into the societal dimensions of rural transformations: to identify potential social inequalities, to understand how we can support ownership and legitimacy of rural transformation agendas and to explore ways of overcoming societal indifference and resistance.

The Just-Scapes project will explore the meaning and practice of “just transformation” in the face of climate change. We define this as widescale and deep-rooted social-ecological change that combines environmental goals (including decarbonisation and protection of biodiversity) with social justice goals. Justice goals relate not only to the distribution of the effects of climate change but also to the effects of climate policy responses. This attention to social justice involves challenging inequalities across categories such as race, gender, wealth, belief system and generations, and adhering to the UN’s 2030 Agenda to ‘leave no one behind’. The idea of ‘just transformation’ views social justice as a goal in its own right, but also as instrumental to overcoming ‘justice barriers’ to the visioning and implementation of transformational change. Such barriers are increasingly evident across Europe, with some climate policies viewed as socially regressive, disproportionately impacting on low income and rural households (for example the Gilets Jaunes movement in France).

The Just-Scapes project uses interdisciplinary and transdisciplinary methods, combining novel humanities and social-science approaches and environmental expertise from geography, psychology, political science, futures studies and creative writing. This enables us to a) explore how European rural citizens perceive the justices and injustices arising from potential climate-induced land-use transformations and b) conceptualise and advance justice-oriented transformations to sustainability in practice. Through three case studies, in the Czech Republic, France and the UK, we aim to find out how different stakeholders conceive of climate justice, how these plural conceptions are contested within particular places, what normative concerns act as barriers to shared vision, and what shared norms provide opportunities for collective action. Specifically, we focus on transformations away from deer-dominated moorland landscapes in Scotland, landscapes dominated by fragile commercial conifer monocultures in the Czech Republic and landscapes of grasslands for extensive livestock farming in France. Just-Scapes proposes to empirically investigate the plurality of justice beliefs across these landscapes, to use this knowledge to inform deliberation of shared norms and visions, and to co-produce landscape level manifestos for ‘just transformations’ towards low carbon, resilient and socially progressive rural landscapes.

The deliberative process will be embedded in transdisciplinary and multi-stakeholder ‘Just Transformation Labs’ that are linked into ‘real’ ongoing policy consultations within the landscape and wider regions. Findings from the project will benefit these case study locations but will also provide understanding and methodologies for wider application for proposed rural land-use climate actions. The team will use its links to academic networks and science-policy platforms to also promote scientific and societal impacts at national and international levels.

PROJECT: 202CM

PROJECT TITLE

Overcoming Obstacles and Disincentives to Climate Change Mitigation: A cross-cutting approach by human and social sciences

YOUR PROJECT IS RELATED TO

Sense making, cultural meaning and risk perception

CONSORTIUM

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P 3	Prof Serge Guimond	Universite Clermont Auvergne	France
P 4	Prof Øyvind Gjerstad	University of Bergen	Norway
P 5	Prof Kjersti Fløttum	University of Bergen	Norway
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ABSTRACT

Climate change today is undoubtedly a challenge for humanity. The Special IPCC 1,5 °C report highlighted the numerous dramatic consequences of climate change; yet, the response of our societies has been slow, contradictory and elusive. Climate change and its consequences are particularly embedded in culture, making it difficult for individuals and societies to manage these phenomena cognitively (Fløttum, 2018: 21): "[it] moved from being a predominantly physical phenomenon to being simultaneously a political, social, and cultural phenomenon - and thus, a communication challenge". The humanities and social sciences are called on to make a crucial contribution to the understanding of how humans approach and make sense of climate change, in order to reduce the value-action gap, using innovative forms of communication to identify entry-points for climate action.

This research project has the transformative aim to improve the scientific understanding of why societies remain indifferent to the risks of climate change, and to understand how multimodal devices and recommendations can convert apathy into action. We will look into the active and essential role of language, narrative, and discourses in shaping citizens' beliefs and actions, through the interdisciplinary and transdisciplinary collaboration between linguistics, semiotics, law and governance, anthropology and social psychological approaches. The project will develop a practical tool in the form of an open-source toolbox platform, providing recommendations, prototypes and resources to citizens, public decision-takers and non-governmental organisations on climate change communication strategies. The project will focus on Belgium, France, and Norway. The toolbox will be tested notably in the course of the deployment of "Opt4Climate", a campaign led in Belgium by the major actors of the climate social movements, with the support of the King Baudouin Foundation. Through analyses of survey discourse and answers, and of social media data, the aim of the project is to contribute, through transformational learning, to an innovative understanding of Europeans' individual and collective values, beliefs, and interests as regards obstacles versus opportunities to reducing greenhouse gas (GHG) emissions and thus to climate change mitigation.

WP1 (Lead **Belgium**) will focus on the coordination of the project as a whole. **WP2** (Lead **Norway**) will look into how people perceive and interpret narratives concerning climate change issues and how social actors construct their positions on climate change by mediating different voices in society. **WP3 and WP4** (Lead **Belgium**) will be based on a semiotic and rhetoric approach of online discourses about climate change, aimed at identifying (1) scepticism, denial, disagreement, and conflict in Reddit argumentations (Cougnon *et al.*, 2019); (2) ideologically charged policies from public decision-takers on Twitter; and (3) the interaction between image and text that facilitates or complicates dialogue, understandings, and calls for action on YouTube and Instagram. In line with WP2, **WP5 and WP6** (Lead **France**) aim to examine how and why individuals can remain indifferent or sceptical to the risks of climate change, as well as what interventions might be carried out to challenge mindsets and motivations. First, social-psychological factors that determine citizen engagement in environmental behaviours will be explored. Second, we will analyse the effects of the climate change risk on citizens' perceptions, behaviours, and attitudes. All the WPs work together for a transformational learning that will enable citizen empowerment and engagement of decision-makers.

The methods used will combine qualitative as well as quantitative surveys and laboratory experiments (including eye-tracker and facereader evaluations). The project involves close collaboration with non-academic partners with whom concrete outputs for the project have already been defined.

PROJECT: ROLES

PROJECT TITLE

Responsive Organising for Low Emission Societies

YOUR PROJECT IS RELATED TO

Social justice and participation

CONSORTIUM

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ABSTRACT

Digitalisation of energy infrastructure – a transition to digital information flows in socio-technical energy systems – can enhance efficient, affordable energy use. It can enable electric mobility, smart charging, renewable energy integration and energy monitoring for low-carbon energy systems. But it poses risks to data protection and privacy, and to social trust between citizens, governments and businesses for democratic environmental governance. ROLES analyses how ongoing digitalisation of energy infrastructure in mid-sized European cityregions (population 100,000-300,000) intends to accelerate the decarbonisation of energy systems, and how this can be reformed to generate widespread societal benefits. It identifies pathways to **Digitalise for Deep Decarbonisation (DDD)**: digitalise to radically decarbonise systems in socially just ways.

Despite citizen concern about our climate emergency, such DDD pathways face multiple structural constraints. Failure to address them is feeding a crisis of social accountability in climate governance. The accountability problem is pronounced in digitalising energy infrastructure due to characteristics that exacerbate social exclusion (the digital divide) and exploit extractive use of data (digital surveillance). This particularly affects vulnerable publics who demand climate action but lack political and economic power. E.g., systemic gains from smart meters and electric vehicles may benefit suppliers but not flow to energy poor users. Yet, citizen-oriented policies can ensure inclusive data use so that digitalisation yields public benefits like affordable, low-carbon mobility and energy use. Using three cases, **ROLES aims to anticipate these accountability crises and develop customisable strategies for more responsive organising of citizen agency in the digitalisation of energy in city-regions.**

Phase I identifies climate-friendly and pro-poor pathways to digitalise energy infrastructure for electric mobility hubs in Bergen, solar energy neighbourhoods in Brighton, and smart energy monitoring in Trento. Using expert interviews (n=3*30) with government, business, civil society, and marginalised groups, and multi-sited structured interviews with laypersons (n=3*30), it co-produces in-depth knowledge about digitalisation needs

and initiatives in each city-region. This includes policy mixes and citizens' modes of engagement and coping strategies during digitalisation of three different energy infrastructures. To identify DDD pathways, ROLES will catalogue how diverse stakeholders lobby, act, react, debate and manage, in relation to sectoral digitalisation policies.

Phase II identifies constraining and enabling conditions for rapid diffusion of the identified DDD pathways. To understand what institutional factors shape these pathways, ROLES will involve multi-stakeholders at regional public events to deliberate on how to accelerate DDD. We will use power cube analysis to identify political economic power dynamics for each pathway. This is an established technique for coproducing knowledge on both formal and informal workings of power with stakeholder groups in interactive, hands-on ways. It facilitates collaboration and can work at various levels of abstraction.

Phase III delivers a stakeholder toolkit and scientific outputs on responsive organising to accelerate DDD pathways for diverse energy systems. Responsive organising constitutes customised strategies to channel citizen agency into diffusing policies and actions that enable DDD pathways. Scientific outputs will discuss these dynamics in and across sectoral cases and city-regions. Jointly, these outputs will constitute actionable knowledge that (i) demonstrates how to identify climate-friendly and pro-poor pathways to digitalise energy systems, and (ii) co-produces strategies for how to make concrete advances towards electric mobility hubs, solar energy neighbourhoods and smart energy monitoring in mid-sized European city-regions.

PROJECT: JUSTDECARB

PROJECT TITLE

Socially Just and Politically Robust Decarbonisation: A Knowledge Base and Toolkit for Policymakers

YOUR PROJECT IS RELATED TO

Social justice and participation

CONSORTIUM

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ABSTRACT

Climate change mitigation needs urgently to be scaled up. Yet attempts to introduce even modest climate policies in many European countries are accused of having unjust distributional effects, prompting aggrieved groups to mobilise politically to block or weaken those Solstice policies. Greater knowledge is needed about how low-carbon transitions can be structured so that they are not only socially just, but are also perceived to be so by key stakeholders, thus enhancing the transition’s political robustness. Two aspects of transition governance, both relatively neglected in the decades of research into climate policy instruments, seem promising: *inclusive processes*, by which affected groups have a genuine stake in the design and implementation of decarbonisation policies; and *redistributive measures*, by which governments couple decarbonisation policies with offsetting benefits—including benefits related to the socio-economic opportunities created by decarbonisation—for groups who would otherwise be vulnerable to its adverse effects.

JUSTDECARB will bring together leading social science and humanities researchers from four disciplines (philosophy, political science, economics, and law) across four countries (Austria, Czech Republic, Norway, and UK) in pursuit of two overarching project objectives:

1. To fill critical gaps in the knowledge base relating to socially just and politically robust decarbonisation, with a particular focus on inclusive processes and redistributive measures (the *scientific objective*);
2. To develop a ‘toolkit’ to help European policymakers steer transition processes in a socially just and politically robust direction (the *policy objective*).

The scientific objective will be pursued via two research themes. The first research theme aims to fill critical knowledge gaps concerning the philosophy, politics and economics of transitional “winners” and “losers”, as they pertain to processes of decarbonisation, via novel, singledisciplinary research projects. One such project will use philosophical methods to clarify the conceptual and normative issues at the heart of the “social justice” dimension of decarbonisation. The second project will use methods from micro-econometrics and labour economics to better understand the difference in skill requirements between high-carbon and zero-carbon jobs, and the implications of these skill differences for the design of climate policies and complementary labour market measures. The third project will focus on political polarisation and the political behaviour of winners and losers from decarbonisation. Using both large-n survey and small-n comparative case-study methods, this third project will study how and why opposition to climate policy develops, with a

view to improving the political robustness of climate policies. The focus of the case studies will be on the phase-out of oil and gas (Norway and UK) and the phase-out of coalmining and/or coal-fired power generation (Czech Republic and Austria).

Building on this work, and adding wider insights from philosophy, political science, and law, our second research theme aims to develop frameworks for evaluating the justice and robustness of, respectively: *processes* of public engagement applicable to the design and implementation of climate policy; and substantive climate *policies*, including redistributive measures. These aims will be pursued through two interdisciplinary, applied research projects.

Finally, to fulfil JUSTDECARB's policy objective, the project team, in consultation with policymakers and civil society stakeholders, will develop a "toolkit for policymakers". Produced with a view to policy impact, the toolkit will take the form of a report that describes the recommended steps for policymakers to take, and methods to use, as they seek to steer transition processes in a socially just and politically robust direction across the key phases of the policy cycle.

PROJECT: SOLARIS

PROJECT TITLE

SOLidarity in climate change Adaptation policies: towards more socio-spatial justice in the face of multiple RISks

YOUR PROJECT IS RELATED TO

Social justice and participation
Sense making, cultural meaning and risk perception

CONSORTIUM

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ABSTRACT

Mitigation policies are insufficient to deal with “dangerous anthropogenic interference” (IPCC, 2018) and adaptation is critical. Climate change adaptation policies need to address physical impacts, but are subject to social, political and spatial trade-offs. In Europe, major implementation challenges arise in relation to democracy, solidarity and social justice. We must anticipate the distributional impacts of deliberative participation processes when forming policies. SOLARIS (“SOLidarity in climate change Adaptation policies: towards more sociospatial justice in the face of multiple RISks”) focuses on social-spatial injustices of Climate Change Adaptation Policies (CCAP). SOLARIS aims to fill the gap in analysis of social justice in relation to climate change adaptation policies. SOLARIS has both scientific and societal objectives and outcomes. It aims to: develop conceptual and analytical approaches to reveal social justice perspectives of CCAPs and explore the policy and decision-making process for a large range of stakeholders (e.g. policy-makers, practitioners, citizens etc.) to facilitate better participatory processes.

Our hypothesis in the SOLARIS project is that social and spatial inequalities exist and threaten the implementation of climate change adaptation policies and the equitable involvement of affected citizens. Several potential social injustices may occur in face of climate change and policies implemented to assist adaptation: i) injustice in the levels of risk experienced and how these will be impacted by climate changes ii) injustice related to the level of contribution to tackling risk and implementing climate adaptation iii) differences in the level of ability to impact decision-making, and iv) injustice in the capacity to respond and adapt. Understanding how these injustices occur and who is advantaged or disadvantaged and in what manner is critical to implementing socially acceptable and just climate change adaptation policies.

This is particularly true for floods, that are among the main climate and weather-related causes of damage in Europe. Through the lens of flood risk management, we will evaluate the design of climate change adaptation policies and the instruments that they use to reduce the risk from extreme events. Concentrating on those strategies which better integrate adaptive actions, SOLARIS focuses on flood prevention, the accommodation of water to reduce impacts and flood preparation and recovery. A case study approach will be adopted (2 per country) to analyse cases which have implemented, or which are in the process of implementing climate change adaptation policies. This approach permits the study of ongoing participation as well as exemplifying the socio-spatial inequalities that may only be revealed postimplementation.

Based on multi-disciplinary research from four countries (Belgium, England, Finland, France), the SOLARIS project addresses two questions:

- i) How can we assess and map socio-spatial inequalities related to the implementation of climate change adaptation policies? We explore what factors make specific groups less involved in climate change adaptation policies and analyse their distributional impacts.
- ii) How are inequalities addressed by adaptation policies? We examine what solidarity mechanisms are implemented and how affected groups are engaged in adaptation policies. Integration in the decision-making process is studied through citizen participation during the processes of definition and implementation.

Through these two research questions, the project contributes to the first call priority: Social justice and participation. SOLARIS addresses adaptation to climate change through revealing injustice and need for solidarity. It also aims to assess the public participation of citizens during the design and implementation of CCAP planning instruments in the case of flood risk strategies and how these processes impact on the distribution of outcomes.

PROJECT: CLEAN cultures

PROJECT TITLE

An approach for innovative Climate Learning, Evaluation and Action in Neighbourhoods – CLEAN cultures

YOUR PROJECT IS RELATED TO

Social justice and participation
Sense making, cultural meaning and risk perception

CONSORTIUM

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P 10	Dr Sebastian Seebauer	JOANNEUM RESEARCH Forschungsgesellschaft mbH	Austria

ABSTRACT

The IPCC report on global warming of 1.5 degree sees bottom-up initiatives by individuals and communities as essential to increase acceptance of and engagement in climate related actions. However, conventional strategies addressing these groups often fail to provoke a change in perspectives and actions. As promising entrance point, **confronting local people with perceived climate relevant threats in their direct surroundings** may tackle climate related prejudices and initiate transformative learning processes.

CLEANcultures investigates, based on existing knowledge and practical experience from various disciplines, **how broadening the perspective at a systemic micro-level triggers action and how this kind of transformative learning encourages political bottom-up driven decisions**. At the core of our approach, we use cases in different countries and contexts to explore how, **at neighborhood level**, new perspectives and solutions for existing local climate-relevant problems can be developed via novel learning and exchange processes. In the design of this learning approach, **we set unusual, creative thematic intervention impulses** to provide neighborhoods not only with facts but **to trigger their emotions and attitudes**. We use local knowledge, challenge accepted norms, explore the cultural background of energy practices and stimulate the co-creation of cultures/narratives of change. This learning process at micro level allows a **better understanding of small-scale societal systems dynamics, in terms of climate change awareness, empowerment and decision making** in transforming processes.

We provide results at three levels: First, an effective change in perspectives and/or decision making at the specific neighborhoods' level; second, a generic transferable methodology for stimulating such processes in other neighborhoods; third, a set of best practice recommendations for the micro- and meso-level of people-oriented policy making to be fed into the post-COP21 knowledge.