



trans4DEMO

Contentious Politics and Democratic Renewal
in Sustainability Transitions

Working paper:

Intergenerational justice in

environmental politics

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List of Abbreviations

Abbreviation	Description
CCE	Climate Change Education
CERI	Children's Environmental Rights Initiative
COP	United Nations Climate Change Conference
ECI	European Citizens' Initiative
EU	European Union
FFF	Fridays for Future
GAUC	Global Alliance of Universities on Climate
ICJ	International Court of Justice
IPCC	Intergovernmental Panel of Climate Change
NIFU	Nordic Institute for Studies in Innovation, Research and Education
NGO	Non-Governmental Organization
OECD	Organization of Economic Cooperation and Development
SR	Sunrise Movement
UN	United Nations
UNFCCC	United Nations Framework Convention on Climate Change
UNICEF	United Nations Children's Fund
US	United States of America
UK	United Kingdom
WHO	World Health Organization
WoS	Web Of Science Core Collection
XR	Extinction Rebellion
YCAN	UNESCO Youth Climate Action Network
YUNGA	Youth and United Nations Global Alliance

Executive Summary

This working paper maps key actors and initiatives addressing intergenerational justice in climate and environmental politics. The concept of intergenerational justice emphasizes how the negative impacts of global warming and environmental degradation, driven by human activity, have severe implications for justice and equity between current and future generations. Drawing on a review of scientific literature, policy documents and institutional practices, the paper examines how grassroots movements, educators, NGOs, policymakers, and legal practitioners incorporate intergenerational concerns into their frameworks.

Youth-led climate movements, including school-aged children, play a central role in mobilizing action and expressing frustration over political inaction of established authorities. Organizations such as Fridays for Future, Extinction Rebellion and the Sunrise Movement demand not only urgent action to combat climate change but also direct fundamental critique toward the legitimacy and efficacy of prevailing political and economic systems. These movements provide young people, including those below the legal voting age with platforms (school strikes, street protests and acts of civil disobedience) for political expression that operate outside electoral channels. These movements blend scientific authority, moral urgency, and systemic critique, while facing challenges of inclusivity, representation, and strategic coherence. Understanding these dynamics is essential to assess both the transformative potential and limitations of youth climate activism. Recent trends indicate that youth climate activism is increasingly intersecting with peace, human rights and global solidarity movements.

National governments are experimenting with structured youth engagement in climate policymaking, as seen in Ireland's Youth Climate Justice Fund, Denmark's Youth Climate Council, and France's deliberative Youth Forum. At the international level, UN agencies and institutions such as the OECD and EU are beginning to institutionalize intergenerational fairness through dedicated strategies and platforms.

Beyond policymaking arenas, street protests or acts of civil disobedience, young people are increasingly using rights-based legal strategies to hold governments and companies accountable, with cases involving children, youth, and child-focused NGOs.

Despite growing academic interest, significant knowledge gaps remain in understanding how youth and schoolchildren can be involved in decision-making processes—particularly around youth-institution relationships, internal movement ideologies, and the implications of youth disillusionment in formal political institutions for representative democracy. In addition, strategic litigation remains underexplored, and more research is needed to assess its impact on children's rights and long-term outcomes. Methodological and ethical challenges have limited research on school-aged children leaving their perspectives underrepresented.

1 Introduction

The main objective of Trans4Demo is to investigate the role and evolution of different forms of contentious politics (social movements and bottom-up initiatives, subversion, protests, cultural opposition, populist backlash and 'anti-sustainability' mobilizations, party movements) at the intersection of the climate and democracy crises, with a particular focus on their practices and impact on liberal democracy and efforts to achieve sustainability transitions. This main objective follows the calls for the necessity of new alliances for sustainability transitions, as well as research on contextual conditions required to realize them.

Work Package 5 (WP5) focuses on novel sites and repertoires of pro-democratic actions and mobilizations for sustainability transitions. It explores civic and community mobilization and protest resulting from limited channels for democratic engagement. It investigates a wide spectrum of actors and their repertoires. These mobilizations often emerge as a reaction to inadequate policies, as identified by citizens and experiences as "injustices", in coping with increasing structural strains. WP5 aims to identify constructive participation formats that may be applied by stakeholders in the future and entrench the potential for integrating them into the institutionalized democratic systems.

This working paper addresses the intergenerational justice issue in sustainability transitions, focusing on the integration and socialization of younger generations into the political order and democratic culture. Intergenerational justice — the concept of fairness and equity between current generations and between current and future generations — is emerging as a central theme and policy concern in both global governance and grassroots advocacy, particularly within the context of climate change and democratic participation.

This paper presents a literature review of scientific publications exploring how children and youth around the world participate in grassroots climate and environmental justice movements. It also examines the extent to which younger generations are included in formal decision-making processes within national and multilateral climate governance institutions by exploring recent policy developments.

Across institutions and initiatives, there is a growing recognition that young people are essential contributors to today's decision-making. This shift is reflected in a range of recent developments that formalize intergenerational equity in policy frameworks and explore legal mechanisms to protect the rights of current children and youth and future generations. Intergenerational justice and its development into multifaceted initiatives and activities across the world are seen as important drivers of youth democratic engagement with the climate crisis.

Focusing on the ways children and youth engage in climate politics is particularly important because they are often excluded from traditional democratic mechanisms, such as voting, due to their age. Despite this, the decisions made today regarding climate policy will disproportionately affect their lives in the long term, as well as the lives of future generations. Their lack of formal political power makes it essential to understand innovative and emerging avenues for participation, such as activism, advocacy, and institutional inclusion.

2 Background

2.1 Defining key terms

The aim of this section is to clarify how key terms such as intergenerational, children and youth are defined and used in the literature review.

In our review we have encountered different concepts, such as *justice*, *equity* and *fairness*, that describe climate change as an inherently intergenerational issue. These concepts are often used interchangeably with the aim of emphasizing how the negative impacts of global warming, driven by human activity, have severe implications for justice and equity between current and future generations. A fundamental aspect is that decisions that are made today on matters affecting global warming and environmental resilience will have a major impact on the ability of current and future generations to enjoy a clean and sustainable environment (Wang & Chan, 2023).

The generational aspect is often claimed in environmental activism for climate justice, i.e. the recognition that the impacts of climate change disproportionately impact the most vulnerable, marginalized and least resilient groups in society. Climate justice is linked to human rights and human centric approaches to development (Martiskainen et al., 2020).

The principle of intergenerational *equity* “states that every generation holds the Earth in common with members of the present generation and with other generations, past and future. It [The principle] articulates “a concept of *fairness* among generations in the use and conservation of the environment and its natural resources” (Weiss, 2011, p. 1) and is the foundation of sustainable development (United Nations, 2023).

Guidelines and principles on intergenerational justice and equity have been developing in recent years, with multilateral organizations promoting intergenerational thinking in their operations. A notable example is the UN endorsement in May 2023 of the *Common Principles on Future Generations*, designed to ensure greater clarity on terminology and agree a set of common values across the UN system for use in strategic planning, policy advice and programming (United Nations, 2023). In the Common Principles future generations are defined as:

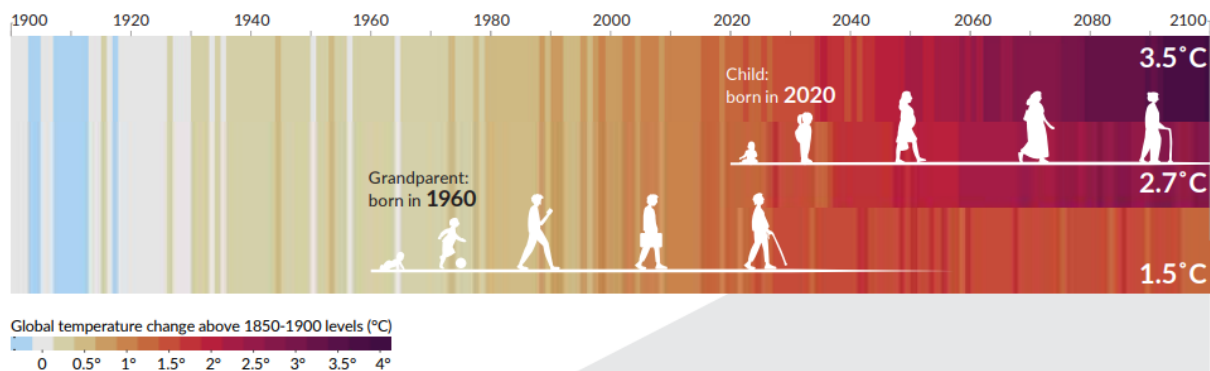
“all those generations that do not yet exist, are yet to come and who will eventually inherit this planet. While children and youth are part of present generations and not future generations, their lives extend further into the future than those of adults and they will be more affected by the short-term thinking and poor decisions being made today than the adults making them” (United Nations, 2023 preamble point 1).

In both policy reports and academic research on intergenerational climate justice, different age groups and generations are typically described using categories such as “children,” “adolescents,” “youth” or “young people,” “adults,” and “future generations.” Importantly, these categories are not merely descriptive as they carry legal and political implications. Individuals placed in different categories are granted different legal rights, with children and youth generally afforded fewer rights and less political agency than adults (Trott, 2024b). In the Western context in particular, children are often assigned fewer responsibilities and positioned primarily as learners, a role reinforced by schooling practices and the social construction of “childhood” (Biswas, 2023; Trott, 2024c).

Children, youth, and adults are also situated within diverse national contexts and legal systems. Those in the Global South are among the most vulnerable to the impacts of climate change (Sanson et al., 2019),

yet intergenerational climate justice is recognized as a global concern. Figure 1 illustrates how projected temperature increases are distributed across the lifetimes of two different generations, thereby underscoring the essence of the intergenerational justice challenge. While older generations will experience only part of the anticipated rise in global temperatures, younger generations are expected to live through the full extent of these changes, including the most severe consequences.

Figure 1: Global temperatures differ across the lifetime of two generations.
Source: Save the Children, 2025.



Note: Warming stripes from 2023 IPCC Synthesis Report GHG emissions scenarios: high (SSP3-7.0) [3.6°C], intermediate (SSP2-4.5) [2.7°C], and very low (SSP1-1.9) [1.5°C].

When examining youth activism in the context of intergenerational climate justice, it is useful to clarify how international organizations define age groups. These categories often overlap, meaning that individuals may simultaneously fall into more than one category, and transition between them as they grow older. Despite such fluidity, the legal rights and social expectations attached to categories differ significantly: a 7-year-old child, a 14-year-old adolescent, and a 21-year-old young person experience distinct legal statuses and societal roles.

According to the Convention on the Rights of the Child (United Nations General Assembly, 1989), any person under the age of 18 is defined as a “child”. At the same time, the UN defines “youth” as people between the ages of 15 and 24 (United Nations, n.d.). Similarly, the World Health Organization (WHO) categorizes individuals aged 10–19 as “adolescents,” those aged 15–24 as “youth,” and those aged 10–24 as “young people” (World Health Organization, n.d.). Many youth climate organizations set their upper age limit at 35 years, though adulthood is generally recognized at age 18, with anyone younger legally defined as a “minor” (Trott, 2024b). Consequently, some young people may also be regarded as adults, depending on the framework applied.

The generational dimension is central to intergenerational climate justice. Age groups shift over time, forming “generations” of people born within the same period. From a sociological perspective, generations are shaped by shared historical and social circumstances and thus develop different understandings of what is considered natural or acceptable. What one generation takes for granted may be unthinkable to another (Bourdieu, 1990, . 292, note 211).

For this working paper, “intergenerational” refers to “the relations and interactions between generational groups (Hopkins & Pain, 2007, p. 208). Intergenerational relationships are often associated with the transmission of knowledge, cultural norms, traditions, and mutual care, support, and resource exchange (United Nations, 2007). In the context of climate activism, however, “adult” voices may sometimes oppose or dismiss “youth” perspectives, occasionally in a condescending manner (e.g. Huttunen & Albrecht, 2021). From the perspective of intergenerational justice, the political engagement of children

can nevertheless be seen as a gift to adults, as the interdependence between generations is brought to the surface, including questions around appropriate responsibility (Biswas & Mattheis, 2022). Importantly, scholars caution that “adults cannot hand over all responsibility for urgent action on the climate crisis to children and youth” (Sanson et al., 2019, p. 205). Including younger children in climate activism presents particular challenges. Ethical concerns make it difficult to both empower children politically and study their experiences in relation to the climate crisis (Donger, 2022). Some also argue that younger children may lack the cognitive maturity to fully grasp the complexity of large-scale “wicked” problems. While most youth climate organizations prioritize adolescents and youth, some have developed approaches to meaningfully include younger children (see section 3).

2.2 Data and methods

This literature review draws on two main types of material: peer-reviewed scientific literature and policy documents. The scientific literature provides theoretical and analytical perspectives on intergenerational climate justice, while the policy documents offer insights into how these debates are framed and addressed in practice at national and international levels.

Reports and policy documents were identified through targeted searches using Google and by systematically reviewing relevant organizational and institutional webpages. To identify relevant research articles, we conducted a systematic search in the Web of Science Core Collection (WoS) (1975-present) database. WoS is an international bibliometric database and comprises the world’s leading scholarly journals, books, and proceedings in the sciences, social sciences, and arts and humanities (Birkle et al., 2020). In the database we limited the search to comprise only published scientific articles. The review includes empirical studies and conceptual papers dealing with intergenerational climate justice over time and across countries.

We included all research published since 2014 to present (search date: 10 April 2025). We included studies dealing primarily with intergenerational justice and the environmental and climate crisis context, and we therefore excluded articles that secondarily mentioned intergenerational justice in environmental politics, as well as generational issues in other areas such as health, education or other socioeconomic areas (see table 1).

	Inclusion criteria	Exclusion criteria
P-population (Who?)	Children, youth, organizations, movements	Older generations only
Concept	Intergenerational justice, equity and fairness	Justice between generations in general
Context	Initiatives and actors participating in climate and environmental politics from the viewpoint of intergenerational justice.	Health, education in general not dealing with climate and environment
Timespan	No time limit	
Publication status	Peer-reviewed journal articles	Books, Conference proceedings, reports
Language	All	
Design	Theoretical and empirical papers	Non-research
Geography	All	

Table 1: Eligibility criteria of the scientific article search

The selection of articles was the result of an iterative process in searching, data extraction and analysis. We first evaluated several searches with different combinations of keywords (piloted in WoS). After consultation with the review team and the librarian at NIFU, we selected one final search string. The search in WoS resulted in a total of 3031 references (three duplicates were identified) and included studies published between 2014-2025. The following search string was used:

(((((TS=("intergenerational justice")) OR TS=(rights)) OR TS=(fairness)) OR TS=(equity)) OR TS=(inequality)) OR TS=(justice))) AND (((TS=(children)) OR TS=(minors)) OR TS=(youth)) OR TS=(adolescents)) OR TS=("young people") AND (TS=(climate)) OR TS=(environment*) AND (((TS=(polic*)) OR TS=(initiativ*)) OR TS=(program*)) OR (((TS=(participation)) OR TS=(action)) OR TS=(activism)) OR TS=(movement*))) AND School Strikes For Climate (OR – Search within topic) and Youth Climate Action (OR – Search within topic) and Fridays For Future (OR – Search within topic)

We imported all references from our search in WoS into the Covidence software¹. The eligibility criteria informed the screening process for titles and abstracts. We first validated a sample of 100 references, which were screened by two reviewers independently. In case of conflicts, consent was reached by discussion between the two researchers. The remaining references were then screened by the same two reviewers. Following a review of titles and abstracts, 3,028 references were assessed, of which 345 were identified as relevant. These documents form the scientific component of our sample.

To select the scientific publications for the literature review, the meta-data of the 345 documents were used and analyzed by using the bibliometric VosViewer software for science mapping and network analysis (van Eck & Waltman, 2014). Given the broad scope of the review, we used the science mapping techniques co-citation analysis (Callahan et al., 2010) and co-occurrence analyses based on keywords (Zhao et al., 2018) to identify the scholarly structure and emerging trends of the topic over time. The full analysis process is described in Appendix A.

Finally, we used the results of the meta-data analyses to identify core articles to be included in the literature review. 21 documents from the sample (N=345) were selected based on their impact (citation weight) or their perceived thematic relevance for the literature review. 4 additional studies from the sample, that were perceived as relevant but did not stand out during the analyses, were also included to supplement the review. The 25 selected documents were analyzed in depth using an extraction scheme (see Appendix B). The results from the literature review, including both research articles and policy documents, are presented in section 3.

¹ <https://www.covidence.org/>

3 Literature review

In this section we present a thematic synthesis of the literature review. It focuses on the core messages and visions of youth-led climate activism and the key actors and initiatives working on intergenerational climate justice globally. The findings pay particular attention to Fridays for Future (FFF), Extinction Rebellion (XR), and the Sunrise Movement (SR), three of the most prominent youth climate movements of the past years. The section ends with a brief outline of what the working paper has identified as future knowledge needs.

3.1 Key messages of youth climate activists

These “new climate movements” articulate their struggles through frames of justice, survival, and intergenerational responsibility, positioning themselves as a moral and political counterweight to inaction by established authorities. Youth-led climate movements have emerged over the past decade as some of the most visible voices in contemporary climate and environmental activism. Organizations such as FFF, XR, and the SM represent a generation of young activists who not only demand urgent climate action but also fundamentally challenge (although in different ways) the legitimacy and efficacy of prevailing political and economic systems. Their emergence is part of a broader shift in transnational climate mobilization, which, as Marquardt (2020) notes, took a significant turn following the 2009 COP15 summit in Copenhagen. Since then, the new climate movements have increasingly linked climate change to injustices that extend across both time and space, with FFF in particular foregrounding generational aspects of climate justice more forcefully than earlier campaigns (Marquardt, 2020).

The clearly articulated missions and strategies of these movements frame climate change as both a scientific and a moral crisis. Contemporary youth activists consistently emphasize the political urgency of climate action, often describing climate change as a profound case of intergenerational injustice. In this framing, they cast themselves as the inheritors of a damaged planet and the “voiceless future of humanity,” juxtaposed against adult political elites who have failed in their responsibility to safeguard the environment for future generations. This moral positioning is often directed toward political institutions, with demands that leaders take decisive action based on the best available scientific evidence (della Porta & Portos, 2023). An “intergenerational divide” narrative can be found within this framing, in which young activists assume the role of involuntary change agents who take on the responsibility that should have been taken by adults in the past (Rödger & Pavenstädt, 2023).

Yet, the young activists are often criticized for not proposing any tangible solutions or alternative approaches for how responsible elites and politicians should act. Yet, activists such as FFF leaders have responded to the criticism claiming that it is unfair to demand (young) activist citizens to present ready-made solutions to the climate crisis (de Moor et al., 2021).

Scientific legitimacy occupies a central role in the rhetorical strategies of FFF, XR, and SM. Across these movements, the invocation of authoritative scientific sources—particularly the Intergovernmental Panel on Climate Change (IPCC), serves not only to define the scope of the problem but also to expose the gap between scientific knowledge and political action. Rödger and Pavenstädt (2022) note that in some instances, the IPCC becomes almost synonymous with “climate science” in activists’ discourse, functioning as an emblem of truth and urgency. However, movements differ in how they relate to and mobilize science. FFF and SM generally call on political leaders to heed scientific advice and implement

policy reforms accordingly. XR, by contrast, exhibits greater skepticism toward political actors, arguing that repeated failures to act on scientific warnings require bypassing conventional channels in favor of alternative democratic mechanisms, such as citizens' assemblies. SM often integrates appeals to science with concrete policy proposals, adopting a pragmatic stance that combines systemic critique with legislative advocacy (Rödter & Pavenstädt, 2023).

The idea of climate justice, broadly understood as the fair distribution of the burdens and responsibilities of climate change, has emerged as a unifying "master frame" (Buzogány & Scherhauser, 2022). Thus, alongside appeals to science, these movements employ justice-based, moral, and political framings to mobilize support. This frame holds that all people, regardless of age, race, gender, or socioeconomic status, have equal rights to a livable climate and equal responsibilities to address environmental degradation. FFF's discourse tends to center on generational injustice, XR emphasizes systemic breakdown and ecological collapse, and SM, particularly in the United States, links environmental issues to racial and economic inequality, highlighting the disproportionate impacts on marginalized communities (Buzogány & Scherhauser, 2022).

These differences reflect underlying ideological distinctions, ranging from reformist and technocratic orientations to more radical visions of systemic transformation (Marquardt, 2020). While public discourse often presents FFF as primarily technocratic and science-driven, the movement contains factions that articulate more explicitly anti-capitalist and transformative agendas. However, such radical elements are often less visible in media portrayals, contributing to perceptions of the movement as less politically radical than it may be in internal discourse transformation (Marquardt, 2020).

Youth climate activism also challenges conventional understandings of **democratic participation** and citizenship. Huttunen and Albrecht (2021) observe that movements like FFF provide young people, including many below the legal voting age with platforms for political expression that operate outside formal electoral channels. Through school strikes, public demonstrations, transnational coordination, and digital organizing, these activists engage in what can be described as prefigurative forms of democracy (Huttunen & Albrecht, 2021). Nevertheless, media coverage of youth-led movements often foregrounds adult voices, experts, politicians, or older allies, thereby marginalizing the perspectives of the young activists themselves (Huttunen & Albrecht, 2021).

The internal composition and ideological diversity of youth-led movements has been emphasized in the literature. Research indicates that young activists are not a homogeneous group and that their approaches to climate action vary according to age, class background, and political orientation. Many young people born since the early 1990s, though they do not make up a homogeneous group, are shaped by global digital connectivity, global crises and institutional inefficacy (Pickard, 2022), to mention some denominators. These shared experiences influence "their values, attitudes, and political participation, and concern for environmental issues" (Pickard, 2022, p. 734).

It is worth noting that youth mobilization today can be "driven by the fear that the existing system and established actors fail to respond adequately to their concerns" (Huttunen, 2021, pp. 3-4). Young climate activists may see themselves as "involuntary change agents", and this intergenerational divide represents a politicization of agency (Pavenstädt & Rödter, 2024, p. 1075).

Svensson and Wahlström (2023) find that while the majority of youth activists favor top-down reforms within existing political systems, a substantial minority also support individual behavioral changes, and a smaller number endorse bottom-up transformations aimed at fundamentally restructuring society. Interestingly, the most radical framings are more commonly supported by middle-aged participants than by youth, suggesting that generational identity does not always align neatly with political radicalism. Political ideology further shapes strategic preferences: left-leaning activists are more likely to advocate for systemic change, underscoring the enduring influence of traditional political alignments within climate activism (Svensson & Wahlström, 2023).

Socioeconomic background is another determinant of engagement. Della Porta and Portos (2023) report that FFF activists from working-class backgrounds are generally more skeptical of market-based or individualistic approaches and tend to favor collective, systemic solutions. However, despite FFF's intention to be an inclusive, broad-based movement, participation remains disproportionately composed of well-educated, middle-class youth, often from families with university-educated parents. This demographic skew raises concerns about inclusivity and representativeness, suggesting that deliberate strategies may be needed to broaden participation among marginalized groups (della Porta & Portos, 2023).

In terms of tactics and repertoires of action, youth-led climate movements have both adapted and innovated upon established protest traditions. Conventional methods such as marches, rallies, and acts of civil disobedience remain central, but these have been reconfigured for the digital era and for transnational coordination. FFF's global school strikes mobilized millions across continents, generating unprecedented media attention and political visibility. XR has employed more disruptive tactics, such as road blockades and mass arrests, aimed at dramatizing the urgency of the crisis and compelling political response, while also advocating for democratic innovations like citizens' assemblies (de Moor et al., 2021). On the other hand, SM's strategies often combine electoral engagement with grassroots organizing, particularly in the context of US climate policy debates.

Despite these innovations, significant challenges persist. De Moor et al. (2021) highlight that while youth climate activism has been effective in mobilizing "first-time" protesters, particularly young women, its participant base remains relatively narrow in socioeconomic and educational terms. Furthermore, the tension between collective political action and the individualized solutions often promoted in mainstream environmental discourse, such as lifestyle changes, remains a source of internal debate (de Moor et al., 2021).

While these movements often mobilize youth, initiatives that specifically target children are less common. A notable example can be found in Norway where the organization *The Eco Agents*, a non-governmental organization for children, seeks to promote the democratic inclusion of children in climate politics (see also Miljøagentene, n.d.). Eco Agents' activities include school-based campaigns encouraging practices such as recycling batteries, walking or cycling to school, and the use of public transportation. Each year, tens of thousands of primary school children across Norway participate in these initiatives. In addition, the organization facilitates more formalized contributions through initiatives such as the Children's Panel on Climate Change and the publication of the Children's Climate and Environmental Report (see box 1).

A further example is *Save the Children*, a global organization focused on children's welfare, has been involved in advocacy efforts related to the impacts of climate change on children. The organization has produced reports that have been presented in international policy forums, including United Nations processes and global climate conferences (Save the Children, 2024, 2025). These activities have facilitated the inclusion of children's viewpoints and personal experiences in formal discussions concerning climate justice and economic inequality.

Box 1: Intergenerational climate justice initiatives involving younger children in Norway.

The **Children's Panel on Climate Change** was established in 2015 by the Eco Agents, a Norwegian environmental NGO, and is composed of a democratically elected group of children. The panel typically consists of 6–8 members between the ages of 11 and 15, representing different regions of Norway. Members are elected annually by Eco Agents' membership. The panel's primary aim is to ensure that politicians and other decision-makers take children's perspectives into account on issues related to climate and the environment. Since its establishment, the panel has gathered the views of more than one hundred thousand children and communicated these to the Norwegian government. In addition, the Children's Panel engages directly with politicians and other key stakeholders both nationally and internationally. For several years, it has participated in the United Nations Climate Change Conferences (COP), including the 2015 conference in Paris and the 2023 conference in Dubai. At the Climate meeting in Glasgow (Glasgow Climate Pact), the Children's Climate Panel and Save the Children contributes to the inclusion of a paragraph on the rights of children in the final declaration.

In addition, the Eco Agents publishes **The Children's Climate and Environmental Report** on an annual basis. The 2024 edition marked the tenth publication of the report. The texts are primarily written by the Children's Panel on Climate Change, with limited editorial input from the organization's staff. A key component is a questionnaire that collects the views of children between the ages of 8 and 16. The survey seeks to ensure equal representation by gender, age, and geography, and asks respondents for their opinions on climate and environmental challenges as well as other societal issues. The results are compiled and presented in the annual climate report, which serves as a tool for communicating children's perspectives to policymakers.

3.2 Participants and actors

School-aged children and adolescents have emerged as a central constituency in contemporary climate activism, representing a significant portion of the actors examined in the studies comprising our sample. Many of these works focus on school strikers and young participants in climate protests, investigating not only their actions and messages but also the cognitive and emotional factors underpinning their engagement. This body of research consistently emphasizes that young people's involvement is shaped by an interplay of diverse motivations, values, emotions, and perceived efficacy of current democratic systems.

One influential study by Martiskainen et al. (2020), based on interviews with climate strikers in six cities across the United Kingdom, Canada, and Norway, documents substantial heterogeneity among participants in terms of both their values and their motivations for engaging in protest. The authors argue that recognizing the diversity within these drivers is crucial to understanding the movement as a whole. Motivations were found to span cognitive, affective, and behavioral dimensions, ranging from a will to protect one's own family and future generations, to expressions of solidarity with vulnerable populations, to broader concerns about intergenerational justice. Interestingly, Martiskainen et al. (2020) emphasize that a significant subset of participants demonstrated only a limited awareness of climate change as a scientific and political problem. Information sources varied widely, including films, documentaries, blogs, tabloids, and scientific reports.

Emotional responses among these young activists ranged from hope and determination to anxiety, despair, and fear. Their preferred actions encompassed both incremental changes, such as recycling and improving household energy efficiency, and behavioral shifts, including refraining from flying, reducing car use, lowering meat consumption, cutting energy use, and minimizing consumerism. For many, taking part in climate protests functioned not only as an attempt to disrupt the status quo and raise public awareness but also as a formative act of identity construction, embedding their activism within a longer-term personal and political trajectory (Martiskainen et al., 2020).

Complementing these findings, Pickard (2022) examined the perspectives of school students, university students, and young workers in the United Kingdom, aged between 12 and 34. A core motivation identified in this study was the belief that collective protest could more effectively “wake up” the public and politicians than could individual lifestyle changes alone. Engagement in protest also served as a psychosocial function, mitigating feelings of isolation associated with climate anxiety by fostering a sense of community. Pickard (2022) highlights a deep disillusionment among youth with the perceived inaction of political leaders, coupled with grief over the anticipated burdens the climate crisis will impose on future generations. The study underscores the democratic implications of this loss of faith in political institutions, calling for closer attention to what such sentiments mean for the future of representative democracy.

Huttunen (2021) situates youth climate activism within broader debates about democratic participation. While some commentators suggest that younger generations are abandoning representative democracy in favor of participatory alternatives, Huttunen’s findings indicate that participation in movements such as FFF does not necessarily signal a rejection of established democratic institutions. Instead, young activists expressed a desire for a more effective representative system. The study suggests that reforms such as lowering the voting age to 16 could enhance democratic legitimacy and representation by integrating younger voices into formal political decision-making (Huttunen, 2021).

The social dimension of youth activism is also central to the work of Wallis and Loy (2021), who examined FFF activists in Germany. Their study emphasizes that collective features, including peer influence and social group norms, play a decisive role in encouraging civic pro-environmental engagement among young people. For practitioners seeking to foster pro-environmental behavior, the authors suggest leveraging the power of social group contexts and communicating behavioral norms within age cohorts (Wallis & Loy, 2021).

Collective efforts can also span across generations, as described in Martiskainen et al. (2020). One of their cases is the strike action in Brighton (UK) on 20th September 2019, where “[P]rimary and secondary school children, students, families, and adults of all ages took part and groups such as Extinction Rebellion, Climate Action Now, Fridays for Future, vegan activists and political parties were present” (p. 4). Such cases illustrate how climate activism can bring social groups from different generations together, and that participating in strike actions can be a family activity for some people.

Climate change education is frequently emphasized by protesters and movement programs. In fact, beyond activism itself, several studies in the sample foreground the role of formal education as both a catalyst and a site of tension for youth engagement with climate issues. Trott (2024a), drawing on interviews with 16 youth activists in the United States, investigated how young people learn about climate change and climate justice in school settings, as well as their recommendations for improving climate change education (CCE) (Trott, 2024a). While participants recognized education as a vital driver of societal transformation, most criticized their school-based learning as narrow in scope, often depoliticized and overly science-centric, or, in some cases, entirely absent. They advocated justice-oriented, action-based CCE accessible to learners of all ages, aimed at equipping students with the knowledge and skills necessary to contribute to systemic, justice-minded change. Trott (2024a) calls for future research to engage a more geographically diverse set of youth voices, including those not already

active in climate movements, to better understand how educational experiences intersect with activism and political participation (Trott, 2024a). Similar observations are found outside the US context, emphasizing that much climate change education still focuses within science-related disciplines and that “it does little to address the intersecting social, political, cultural and economic components of climate issues, or for building the skills needed to participate in collective planning” (Karsgaard & Davidson, 2023, p. 77). Moreover, it is emphasized that climate education often tend towards instrumentalism and less towards fostering notions of participation and agency (Levinson, 2012).

Trott’s (2024c) related work expands the focus by exploring how activism itself functions as an educative process for young climate justice advocates in the United States. In-depth interviews with activists aged 15–17 reveal that students simultaneously saw themselves as “learners of the movement” and as “climate justice educators.” As learners, they acquired knowledge of climate justice and developed practical skills such as organizing, communication, and conflict resolution. As educators, they engaged in activities ranging from delivering workshops, visiting schools, and participating in teach-ins, to developing curricula, producing digital content, and conducting public protests. These youth were not only disseminating information about climate and social justice but were also equipping others, both peers and adults, with tools for democratic participation and political advocacy (Trott, 2024c).

Trott (2024c) also examines the intergenerational dimension of youth climate activism, applying the concept of “adultism” to capture both the hostile and benevolent forms of paternalism that young activists encounter (Trott, 2024c). Participants emphasized the need for adults to take their demands seriously, to amplify youth voices, and to act on these demands in substantive ways. They called on adults, especially those in positions of power, to leverage their political enfranchisement, professional authority, and material resources to advance climate justice through solidarity-based partnerships.

Overall, the studies presented in this section paint a multifaceted picture of youth climate activism. They reveal that school-aged children and young adults are motivated by a blend of personal, collective, and justice-oriented concerns; that activism can serve as both a response to and a mitigation of climate anxiety; that peer influence and social identity are powerful catalysts for engagement; and that formal education often lags behind the needs and aspirations of young people confronting the climate crisis.

Whereas social movements articulate intergenerational justice claims primarily from the grassroots, often by contesting established power structures and advocating for transformative societal change, **national governments** and **multilateral institutions** typically engage with these concerns through institutionalized and policy-oriented channels. In recent years, several European governments have established formal mechanisms to facilitate youth participation in climate governance².

For example, the Government of Ireland introduced the Youth Climate Justice Fund in March 2020, allocating EUR 500,000 to support youth-led initiatives aimed at advancing climate justice. The fund finances projects (climate education, community events, awareness campaigns, and hands-on environmental activities) that raise awareness among young people (aged 8–25) and empower them to influence decision-making at community, regional, and national levels (Department of Education and Youth, 2025).

In Denmark, the Youth Climate Council was created in 2019 following advocacy from Danish Youth Delegates and the Danish Youth Council. Composed of 14 members aged 18–29, the Council represents a broad spectrum of youth, including climate activists, students, and young professionals. Members are appointed for a two-year mandate and provide formal recommendations to the Minister of Climate, Energy and Utilities every six months. Their input has addressed issues such as food policy, taxation, EU climate strategy, and emission reduction targets. The Council’s recommendations are regularly integrated

² An overview of national initiatives for youth participation in decision-making on climate policies and other areas can be accessed through the [Youth Wiki: Europe's Encyclopedia of National Youth Policies](#)

into the ministry's work, creating a structured channel for youth influence on national climate policy (Danish Ministry of Climate, 2025).

In France, a different approach has been tested through deliberative participation. In 2023, the French Youth Forum on the energy mix (*Forum des Jeunesses dans le cadre de la concertation citoyenne sur le mix énergétique*) convened 200 young people between the ages of 18 and 35, selected by sortition to reflect the diversity of French youth. With support from experts, participants deliberated on questions of energy production and consumption, with the objective of identifying priorities and actions to achieve carbon neutrality by 2050 and to reduce dependence on fossil fuels (Le forum des jeunesses, 2023).

The United Nations has highlighted the importance of intergenerational solidarity—defined as “social cohesion between generations”—for more than three decades. The Brundtland Report (Our Common Future, 1987) underscored the responsibility of the present generation to account for the needs of future ones, framing sustainable development as “development that meets the needs of the present without compromising the ability of future generations to meet their own needs.”

Since the 1980s, the UN has also emphasized the role of youth in global decision-making. The first International Youth Year in 1985, themed Participation, Development and Peace, signaled this recognition. Later, Agenda 21 (1992), particularly Chapter 25 on Children and Youth, called for the active involvement of young people in environmental and development policymaking and implementation.

Building on these commitments, the Youth and United Nations Global Alliance (YUNGA) was established in 2009 as a partnership between UN agencies and civil society organizations working with young people. Its objective is to support youth engagement in activities related to environmental and social challenges, while also providing avenues for participation in UN processes. By functioning as an entry point to the UN system, YUNGA facilitates awareness-raising and participation among children and youth, with the aim of integrating their perspectives into global discussions.

Another initiative is the UNESCO Youth Climate Action Network (YCAN). Launched during COP25 in Madrid in 2019, YCAN serves as a global platform connecting youth climate networks from around the world. Its aim is to foster cooperation, elevate youth-led climate research, and empower young leaders to drive sustainable change. The network reflects a broader movement to provide youth with the resources, visibility, and structural support needed to influence international climate policy directly.

A recent initiative of youth empowerment in climate politics is the Fourth Global Youth Summit on a Net-Zero Future, held from September 12–14, 2024, in Beijing. Organized by UNESCO's Regional Office for East Asia, Tsinghua University, and the Global Alliance of Universities on Climate (GAUC), the summit brought together over 400 youth delegates from 26 countries, alongside more than 270,000 virtual participants. The event was a platform for young voices to articulate new ways to address the climate crisis and to engage in high-level policy discussions aimed at achieving net-zero emissions.

In addition, steps have been taken within the UN framework on the legal front. In 2023, the United Nations General Assembly requested an advisory opinion from the International Court of Justice (ICJ) regarding states' obligations to protect the rights of future generations in the context of climate change. This initiative seeks to clarify the legal basis for intergenerational equity and its potential recognition as a principle within international law and environmental agreements.

Beyond the UN, other international institutions have also advanced intergenerational perspectives. The Organization for Economic Cooperation and Development (OECD) has incorporated considerations of youth empowerment and intergenerational justice into areas such as social protection, taxation, and education, highlighting the importance of long-term impacts across generations and promoting the inclusion of young people in governance and decision-making processes (OECD, 2020). More recently, the European Commission has formally integrated intergenerational fairness into its political structure. In

2024, a new Commission Cabinet was established with a portfolio covering intergenerational fairness, youth, culture, and sport. This is the first time that intergenerational fairness has been explicitly institutionalized within the EU's executive framework. Its mandate includes developing the first EU Strategy on Intergenerational Fairness, introducing a "youth check" to assess the generational impact of new legislation, organizing a European Citizens' Panel on Intergenerational Fairness, and advancing the implementation of the EU Strategy on the Rights of the Child (European Commission, 2024).

3.3 Social and political influence

Youth-led climate and environmental justice movements have emerged as significant actors promoting issues associated with intergenerational climate justice. Through their activism they have had an influence on policy debates and public awareness on climate justice.

However, the question of whether increased awareness translates into concrete behavioral change remains contested. Venghaus, Henseleit, and Belka (2022) examine this issue in the German context, focusing on consumption decisions across mobility, food, and housing sectors. Their findings confirm a persistent "attitude-behavior gap": while climate protection enjoys widespread public support and problem awareness is high, these attitudes have not yet produced substantial changes in individual consumption patterns. Nonetheless, the authors observe that the effects on political agenda setting are more immediate, with an increased climate salience putting strong pressure on the political process mainly through shifts in voting behavior, and creating windows of opportunity for policymakers to implement more ambitious sustainability measures with public backing (Venghaus et al., 2022).

A similar dynamic is observed in Switzerland. Fritz, Hansmann, Dalimier, and Binder (2023) investigate the immediate effects of the FFF climate strike movement on environmental awareness and behavior among Swiss residents aged 18 to 75. While the study finds limited changes in public-sphere engagement (e.g., political participation), it reports notable shifts in private-sphere environmental behaviors, underscoring the challenges of translating movement energy into sustained collective action (Fritz et al., 2023).

Recent scholarship suggests that youth climate activism exerts **influence on party politics**, particularly in Western Europe. Schwörer (2024) finds that while green parties are not necessarily the primary beneficiaries of the FFF movement, mainstream parties have adapted their agendas in response to heightened public concern and protest activity (Schwörer, 2024). This responsiveness varies considerably by country: climate change features prominently in electoral manifestos in Norway, Sweden, and, to a lesser extent, the UK and Switzerland, but remains marginal in Spain and Italy. Similarly, Schwörer and Fernández-García (2024) show that even populist radical right parties—traditionally resistant to climate policy—have engaged with the issue when mass mobilizations and public visibility make it unavoidable, indicating that organized protest can compel political actors across the spectrum to address climate change (Schwörer & Fernández-García, 2024).

At the global level, Han and Ahn (2020) argue that youth climate mobilization, particularly the activism catalyzed by the Swedish climate activist Greta Thunberg, has succeeded in elevating climate change to a higher position on the **international political agenda**, garnering broad social endorsement, and urging incremental policy adjustments by some states and institutions (Han & Ahn, 2020).

Beyond organizing protests, youth activists have increasingly engaged with **formal political mechanisms**. For instance, Greta Thunberg and 14 children from Argentina, the Marshall Islands, France, Germany, and the United States filed a complaint under the UN Convention on the Rights of the Child, alleging that governments' inadequate responses to the climate crisis violated the convention.

Moreover, at the UN level an institutional achievement has been the formal incorporation of youth voices into climate governance processes, exemplified by YOUNGO's recognition as an official constituency under the United Nations Framework Convention on Climate Change (UNFCCC).

Youth activists have also employed the European Citizens' Initiative (ECI) to pressure the European Commission to act more decisively. Their petition called for: (1) revising EU Paris Agreement targets to an 80% reduction in greenhouse gas emissions by 2030 and achieving net-zero by 2035, with corresponding legislative changes; (2) implementing an EU Border Carbon Adjustment; (3) prohibiting free trade agreements with countries not aligned with a 1.5 °C-compatible pathway; and (4) creating and distributing free climate education materials across all EU member states (Han & Ahn, 2020).

However, there remains a need to establish more formal and informal venues for sustained dialogue between youth and decision-makers to ensure that young people's perspectives are meaningfully integrated into policy formulation (Han & Ahn, 2020).

The influence of youth-led climate activism also extends into **the economic sphere**. Schuster, Bornhöft, Lueg, and Bouzzine (2023) analyze the effects of FFF on European and U.S. stock markets, finding that climate activism can significantly impact firm valuations during major global climate strikes. The study reveals that superior environmental performance is rewarded when activism receives high public attention, and that investor reactions are shaped not only by government regulation but also by NGO activism. This recurring, "processual" market response suggests that activism can drive the reallocation of capital toward greener assets, offering a potential lever for accelerating the green transition (Schuster et al., 2023).

Youth-led climate activism has also intersected with **rights-based strategies and legal action**. Sanson, Van Hoorn, and Burke (2019) and Donger (2022) document how young people are increasingly turning to the courts to compel governments to fulfill their climate obligations, adding a judicial dimension to the movement's repertoires of action (Donger, 2022; Sanson et al., 2019). Recent years rights-based climate cases have involved plaintiffs who are children under the age of 18, a children's non-governmental organization (NGO), or a class of children. Many also involve 'youth' plaintiffs (Donger, 2022).

One prominent example is the Children's Environmental Rights Initiative (CERI) which has coordinated the Intergovernmental Declaration on Children, Youth and Climate Action. The Declaration was first presented to state leaders at the UN Human Rights Council session on 30 June 2020, with 15 state signatories as at early 2022 (Donger, 2022).

The author saw this trend as reflection of the increasing prominence and power of youth climate activists, and the convergence of climate governance with children's rights (Donger, 2022). However, Donger (2022) also emphasized that strategic litigation involving children and youth remains an underexplored tool in the struggle against global warming, with further research needed on its effects, particularly on children's rights.

3.4 Knowledge needs

Despite the growing body of research on youth-led climate movements and intergenerational justice, several important knowledge gaps remain that warrant further exploration. One area of inquiry involves the complex relationship between emerging climate actors and institutional authority. As noted by Rödder and Pavenstädt (2023), new actors in the climate movement may derive positional power by aligning themselves with more established figures or institutions that hold scientific or political legitimacy. This

raises questions about how activist-scientist hybrid roles function and how alliances with scientists influence movement legitimacy and credibility. Furthermore, the role of science within these movements often appears depoliticized suggesting the need to better understand how science is strategically used to maintain an image of neutrality while advancing implicitly political goals (Rödder & Pavenstädt, 2023).

A second area requiring further investigation concerns the ideological diversity and internal structure of movements such as FFF. Della Porta and Portos (2023) emphasize the importance of examining the ideological fragmentation of FFF, alongside the diversity of its social base. As the movement grows transnationally, it becomes increasingly important to understand how varying political beliefs, social identities, and class backgrounds shape participation and strategy. Similarly, Marquardt (2020) highlights the need for deeper analysis of FFF's broader societal and political implications, particularly its underlying political orientations and the fundamental contestations.

A number of studies also claim that research on this topic should extend beyond Western or European contexts to incorporate comparative perspectives with other regions. For example, Buzogány and Scherhauser (2022) call for more cross-regional and international studies of climate justice movements, as climate activism may manifest differently depending on national histories, political regimes, and socio-economic conditions. Understanding these regional variations are seen as essential to building a more nuanced, global picture of youth climate activism (Buzogány & Scherhauser, 2022).

De Moor et al. (2021) suggest several further directions for research. First, they propose exploring the capacity of leadership within FFF and XR to form ties with other social movement organizations, as these connections can potentially generate new resources, opportunities, and forms of influence. Second, they note the emotional complexity of youth activism, where sentiments of hope coexist with despair. More research is needed to examine how youth activists reconcile these contradictory temporal perspectives, and how such emotional dynamics may affect the sustainability of activism in the long term (De Moor et al., 2021).

Another emerging area of interest concerns the evolving discourse of intergenerational injustice. Van de Velde (2023) argues for the development of both qualitative and quantitative studies to trace how the narrative of the "sacrificed generation" is taking shape across different national and socio-political contexts. This includes examining how economic and social fallout from the climate crisis may radicalize youth anger and deepen generational divides. Moreover, comparative studies are called for in understanding how these generational framings evolve in relation to different welfare regimes and movement types, particularly in European countries where intergenerational inequalities are already pronounced and youth pessimism is widespread (van de Velde, 2023).

Finally, Wallis and Loy (2021) reflect on the methodological and ethical challenges of conducting research with younger participants, particularly those aged 13–16. These challenges include designing age-appropriate research tools, navigating stringent data protection requirements, and recruiting participants who may be difficult to access.

4 Conclusion

This paper aimed to map current initiatives and actors working on intergenerational justice in climate and environmental policies globally. The work constitutes the first task within *Trans4Demos'* Work Package 4, which addresses novel sites and repertoires for democratic renewal. The findings draw on a literature review of research articles published in the past ten years, as well as on a selection of highly visible international policy initiatives that support children's and youth rights and democratic engagement.

Overall, our review shows that the topic of intergenerational justice has gained significant attention from both scholars and policymakers over the past decade. Nevertheless, it remains relatively underexplored in academic literature compared to other related topics, such as youth involvement in green political parties (Martiskainen, 2020; della Porta and Portos, 2023), and several knowledge needs remain to be addressed in this emerging field.

Scholarly interest began to grow in the wake of mass protests and activities by new climate movements, particularly following the emergence of the Fridays for Future movement in 2018–2019, one of the largest environmental social movements in history (Martiskainen, 2020). This movement succeeded in placing climate policy high on political agendas worldwide and mobilized large numbers of schoolchildren and youth in democratic participatory processes.

These youth-led climate movements invoke a "generational we" and level direct accusations at older generations, criticizing the economic, social, political, and environmental legacies that endanger the futures of today's children and those yet to be born. The review also highlights other movements—such as Extinction Rebellion and the Sunrise Movement—that have channeled the energy, frustration, and climate anxiety of younger generations.

Through their repertoires of action, including protests, school strikes, and non-violent civil disobedience, these movements communicate a clear message: children bear the greatest burden of climate change. They are more vulnerable than adults to extreme weather events, toxic exposures, and climate-related diseases, and are inheriting a planet that is increasingly dangerous to inhabit.

A common feature of these movements is their framing of climate justice, i.e. the recognition that the impacts of climate change disproportionately affect the most vulnerable, marginalized, and least resilient populations. This justice-oriented framing links climate action with human rights and human-centered approaches to development, as opposed to purely technocratic or top-down solutions. Movements such as Extinction Rebellion's call for citizens' assemblies reflect demands for new forms of political participation and democratic deliberation. However, despite shared principles, the studies reviewed points to significant variation within and between youth climate movements across different contexts.

Most of the literature focuses on European and other Western contexts, highlighting a need for more research into the demands and intergenerational concerns of youth in non-Western countries. Moreover, the reviewed studies emphasize the implications of these movements for democratic practices. While youth-led climate activism does not represent a coherent or unified political base, they challenge established political elites, accusing them of insufficient action to mitigate climate change despite clear scientific warnings. At the same time, several studies express concern over what they perceive as the movements' "naïve" reliance on climate science and technocratic solutionism (e.g. Marquardt, 2020; Han & Ahn, 2020; de Moor et al., 2021).

These observations hold significant relevance for the *Trans4Demo* project. The new climate movements and protests for intergenerational climate justices globally represent novel sites and repertoires of pro-

democratic actions and mobilizations in sustainability transitions. Crucially, youth actors can be catalysts for democratic renewal, introducing new forms of participation, prompting mass youth mobilization, and reframing sustainability debates, yet they may also contribute to political polarization or disengagement.

In the literature review the concern on climate change education also emerged as a core topic. Studies emphasized that current approaches are often overly focused on science, and lacking political and justice-oriented perspectives. Studies highlight that formal education can both support and hinder youth engagement, depending on how climate issues are framed. There is a call for more diverse research to understand how educational experiences shape youth participation, especially beyond activist circles.

Parts of the review also highlight that intergenerational climate justice is increasingly being pursued through the courts. Younger generations have brought claims before the judiciary to advance demands for intergenerational climate justice. However, little is known about how children and youth engaged in such strategic litigation are personally affected by these acts of protest (Donger, 2022).

The landscape is evolving rapidly. Since the global climate strikes of 2019, other issues, such as COVID-19, national and global security, peace, and social inequality, have gained prominence alongside climate concerns. Many young activists are now directing significant efforts toward opposing violence and armed conflict, including recent protests against what young activists view as inactions of Western governments and institutions in addressing Israel's military operations in Gaza (Sadiki & Saleh, 2024). Greta Thunberg's participation in a humanitarian boat expedition to Gaza in June 2025 illustrates a broader trend in which climate activism and intergenerational justice agendas increasingly intersect with peace, human rights, and global solidarity movements (Thunberg et al., 2023; Tondo, 2025).

A further trend that merits closer examination concerns the democratic implications of declining trust in political institutions among younger generations (Pickard, 2022). Greater understanding is needed of how this erosion of confidence may shape the future of representative democracy. Equally, further research should explore the perspectives of young people who are not engaged in climate activism and who do not identify as activists (Trott, 2024a, 2024d).

Crucially, the youth cohorts cannot be regarded as a homogeneous or monolithic entity (Pickard, 2022). Variations in socio-economic background, political orientation and cultural identity shape the ways in which young people perceive the climate and environmental crisis and their willingness to engage with different forms of political institutions.

For *Trans4Demo*, this evolving landscape and diversity provide crucial perspectives for examining the role and trajectory of social movements, grassroots initiatives, protests, and other forms of participation and engagement in contentious politics within the context of sustainability transitions.

Annexes

Appendix A: Methods and results of the science mapping

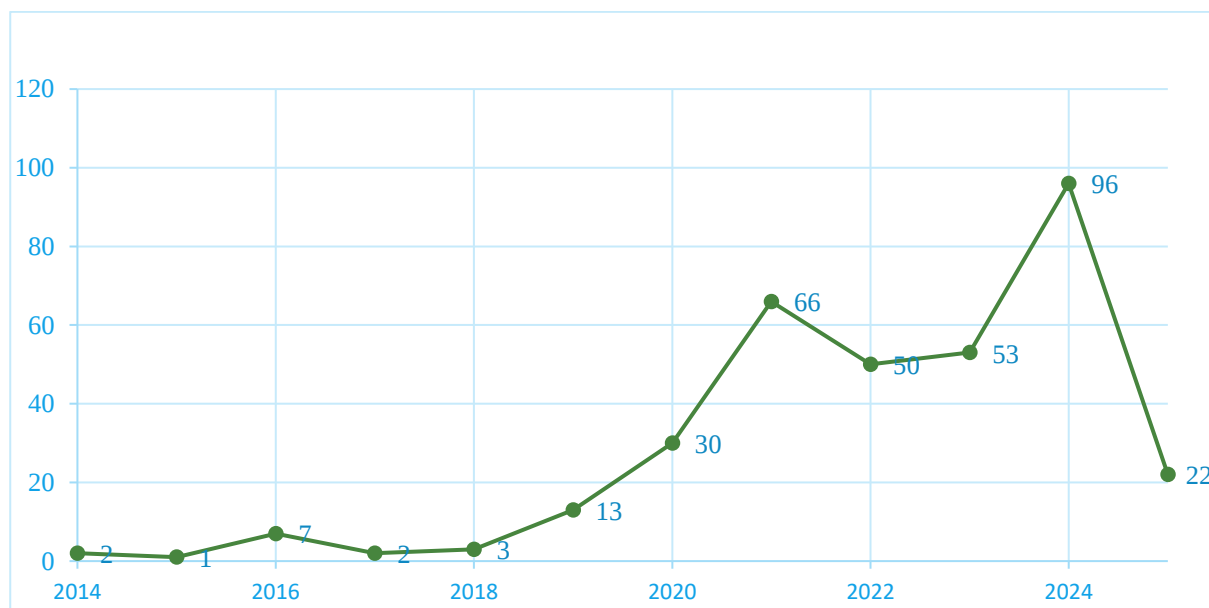
As described in section 2, we employed science mapping techniques to inform the selection process for the literature review. In addition to identifying the distribution of the 345 scientific publications (i.e. publication year, journals), we employed three types of analysis:

- 1) Citation analysis was used to identify highly influential publications and the interdisciplinary character of the research field. This analysis draws on the assumption that citations reflect intellectual relations between publications that evolve when one publication cites the other, thereby exploring relationships between publications.
- 2) Bibliographic coupling draws on the assumption that two publications sharing common documents are also similar in terms of their content.
- 3) Keyword occurrence analysis was used to identify common themes in the sample (of 345 scientific publications).

We used the VosViewer software for visualizing bibliometric networks consisting of nodes of publications and researchers (van Eck & Waltman, 2014).

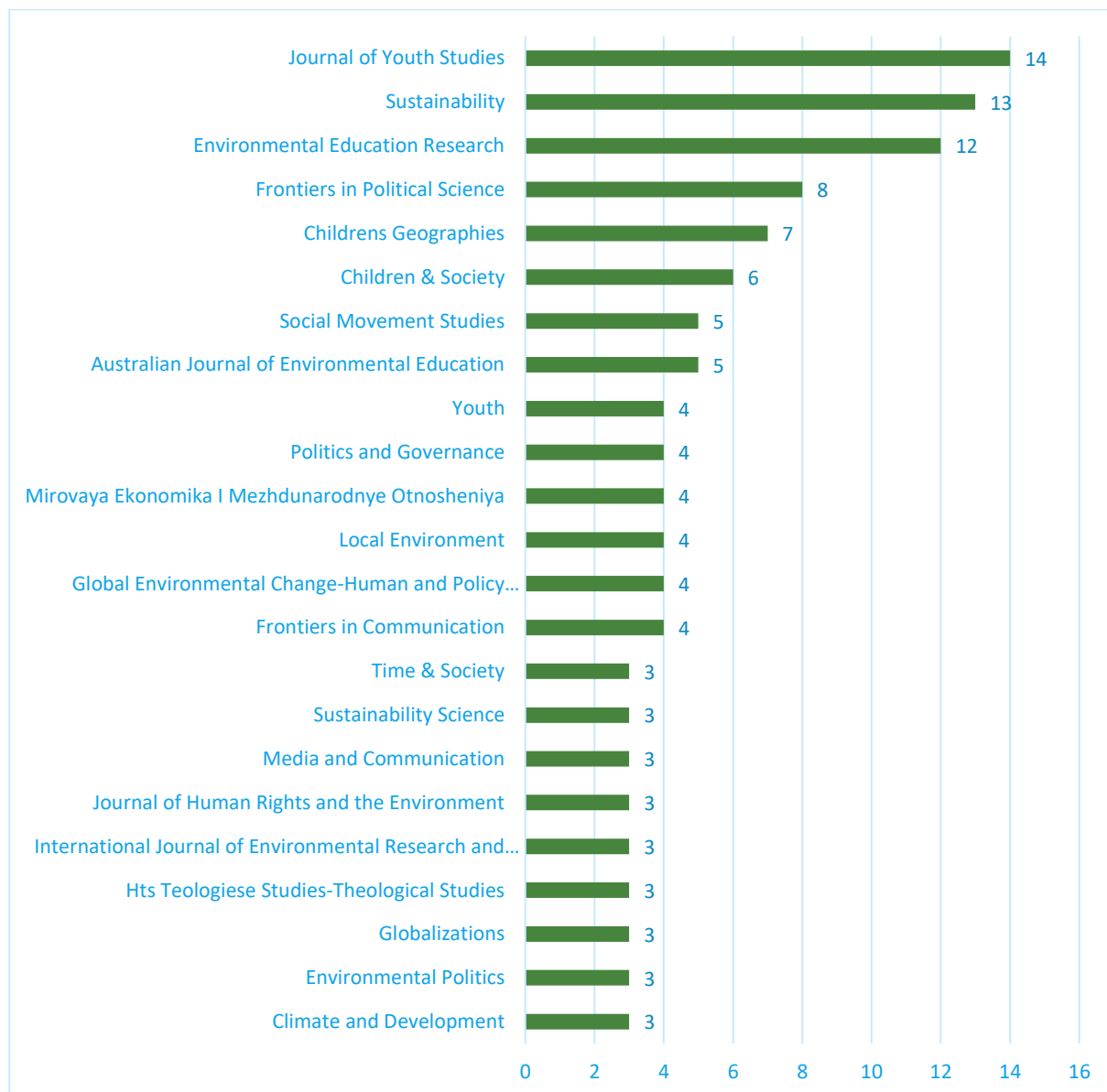
Figure 2 shows the trend in publications within the sample. There was a sharp increase in publications after 2018, resulting in a peak in 2024 with 96 publications. Though there has been a general increase in scientific publication over the past decade, the increase in scientific publications on the topic can be interpreted as an effect of the establishment of school strikes for climate, under the banner "Fridays for Futures", initiated by the young Swedish climate activist Greta Thunberg.

Figure 2: Trend in publications 2014-2025, N=345



Further, the included 345 documents were published in 216 different scientific journals in total, which indicates a high fragmentation and distribution of the literature. Figure 3 shows publications in journals with at least three publications. Journals where most of the papers from the sample are published are the *Journal of Youth Studies* (14 publications), *Sustainability* (13 publications), *Environmental Education Research* (12 publications) and *Frontiers in Political Science* (8 publications).

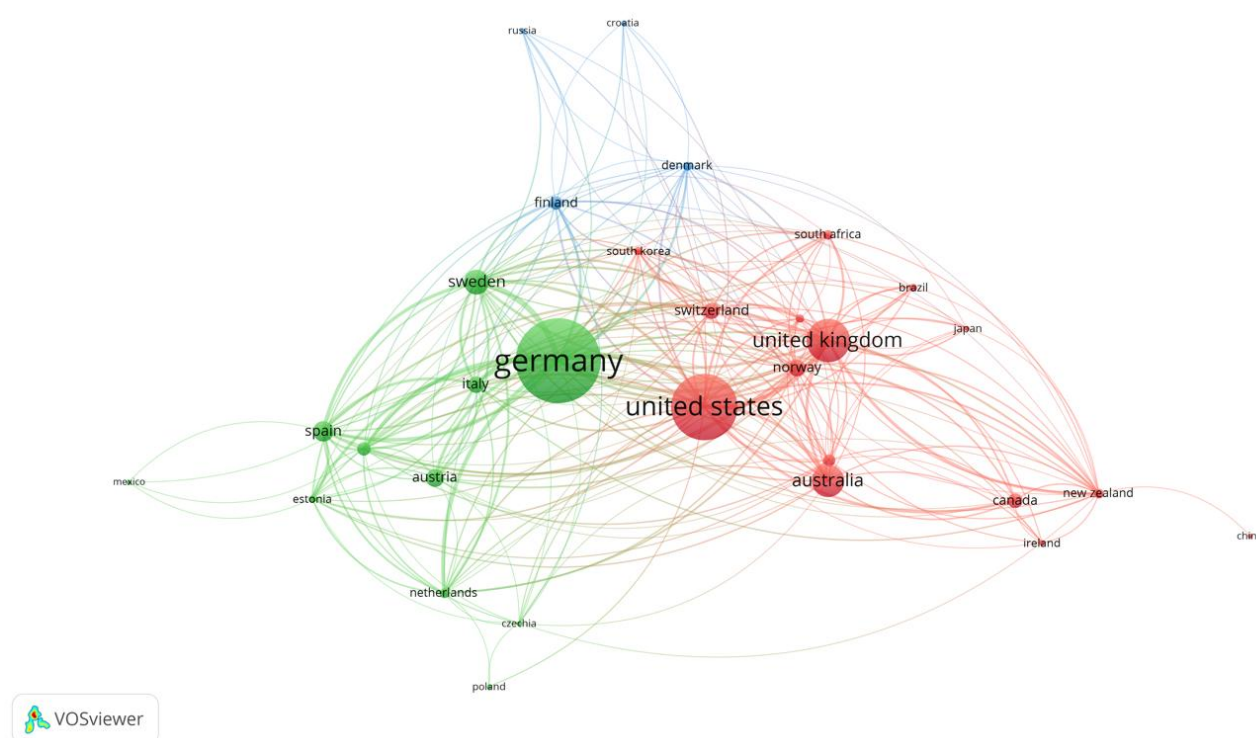
Figure 3: Journals with at least three publications from the sample



Citation analysis was used to identify the main actors and intellectual connections in the sample. Figure 4 illustrates citation connections between author country affiliations in the sample. Larger nodes reflect a higher impact, measured by a higher number of citations (normalized citations).

In short, the authors of the documents with high impact appear to be affiliated with institutions in Germany, the US, the UK and Australia, as well as Sweden, Norway, Switzerland, Italy, Austria and Spain. It is worth noting that authors affiliated with institutions in Germany have achieved higher impact, reflected by a high number of normalized citations, followed by authors affiliated with institutions in the US and UK. However, all three clusters include nations worldwide, which illustrates an international authorship on the topic of intergenerational climate justice.

Figure 4: Citation analysis (including 111 connected documents, 3 clusters with at least 5 citations and 2 documents per country)



Citation analysis was also used to identify citation links based on individual documents as unit of analysis. Seven clusters were identified, illustrated in Figure 5 and visualized by the colours red (incl. Pavenstädt & Rödder, 2024; Martiskainen et al., 2020; Piscitelli & D'Uggento, 2022), yellow (incl. Wallis & Loy, 2021; Sanson et al., 2019; Huttunen & Albrecht, 2021), blue (incl. Trott, 2024a; Trott, 2024b; McGregor & Christie, 2021; Biswas & Mattheis, 2022), green (incl. de Moor et al., 2020; Schwörer, 2023; Marquardt, 2020; Kowach et al., 2021), orange (incl. Hayes & O'Neill, 2021; Zamponi et al., 2022), purple (incl. Thew et al., 2020; Han & Ahn, 2020; O'Brien et al., 2018) and turquoise (incl. Grady-Benson & Sarathy, 2015; Kotzé & Knappe, 2023; Gonzalez-Ricoy & Rey, 2019). This analysis helped identify the connections between notable documents within the sample.

Figure 5: Citation analysis (including 111 connected documents, 7 clusters with at least 10 citations; figure shows normalized citations)



Figure 6: Co-word analysis (including 75 terms with at least 10 occurrences)



It is worth noting that key terms related to the central youth climate movements Fridays for Future (e.g. "Friday", "school strike", "Greta Thunberg") and Extinction Rebellion (e.g. "Extinction Rebellion", "climate movement", "activist") can be identified within these clusters. Furthermore, many terms point to the political sphere (e.g. "policy", "climate litigation", "government", "democracy") and equity work (e.g. "justice", "right", "power", "solidarity", "gender"). Other terms may be associated with the educational field (e.g. "education", "school") and research design more generally (e.g. "narrative", "focus group", "participant observation").

The selection of scientific publications for the literature review) was informed by these analyses, including a geographical and thematic spread from central actors on the topic of intergenerational climate justice. The resulting review is presented in Section 3, and the selected scientific publications are listed in Table 3, Appendix C.

Appendix B: The data extraction scheme

The selected scientific publications for the literature review were analyzed based on an extraction scheme in Covidence, presented in Table 2. In this analysis we synthesized data for the review (see the results in section 3).

Table 2: Categories used for the data extraction in Covidence

Extraction category	Description of the data collected
Study ID	Authors and year of publication
Title	The document title
Country in which the study was conducted	Country or countries and, if applicable, specific cities mentioned
Notes	Other details on the study's positioning
Definition of concepts tied to intergenerational justice	How is intergenerational justice described and defined? What references are used?
Select concepts used in the study: * Intergenerational climate justice * Fairness * Equity * Environmental justice * Rights * Other	Select applicable concepts, or write about other relevant concepts discussed in the paper
Description of core thematic orientation	What is the core theme discussed in the paper? How is the theme related to intergenerational climate justice?
Aim of the study	The research gap behind the study
Study design	Methodology, analysis
Age group/children/youth included	If included in the study or discussed in the paper, how are children/youth presented
How are young people or children involved?	If involved in initiatives (i.e. climate actions)
Main observations from the study and insights on intergenerational climate justice	Results and implications
Knowledge needs	Recommendations for future research

Appendix C: Selected scientific publications

Table 3: Selected scientific publications for the literature review.

Year	Author(s)	Title	Journal
2022	Buzogány, A.; Scherhauser, P.	Framing different energy futures? Comparing Fridays for Future and Extinction Rebellion in Germany	Futures
2020	de Moor, J.; De Vydt, M.; Uba, K.; Wahlström, M.	New kids on the block: taking stock of the recent cycle of climate activism	Social Movement Studies
2021	della Porta, D.; Portos, M.	Rich kids of Europe? Social basis and strategic choices in the climate activism of Fridays for Future	Italian Political Science Review
2022	Donger, E.	Children and Youth in Strategic Climate Litigation: Advancing Rights through Legal Argument and Legal Mobilization	Transnational Environmental Law
2023	Fritz, L.; Hansmann, R.; Dalimier, B.; Binder, C. R.	Perceived impacts of the Fridays for Future climate movement on environmental concern and behaviour in Switzerland	Sustainability Science
2020	Han, H.; Ahn, S. W.	Youth Mobilization to Stop Global Climate Change: Narratives and Impact	Sustainability
2021	Huttunen, J.	Young Rebels Who Do Not Want a Revolution: The Non-participatory Preferences of Fridays for Future Activists in Finland	Frontiers in Political Science
2021	Huttunen, J.; Albrecht, E.	The framing of environmental citizenship and youth participation in the Fridays for Future Movement in Finland	International Journal of Geography
2022	Marquardt, J.	Fridays for Future's Disruptive Potential: An Inconvenient Youth Between Moderate and Radical Ideas	Frontiers in Communication
2020	Martiskainen, M.; Axon, S.; Sovacool, B. K.; Sareen, S.; Del Rio, D. F.; Axon, K.	Contextualizing climate justice activism: Knowledge, emotions, motivations, and actions among climate strikers in six cities	Global Environmental Change
2024	Pavenstädt, C. N.; Rödger, S.	Between evidence first and political fight - understanding dynamics of (de-)politicization in US climate movements' future narratives	Environmental Politics
2022	Pickard, S.	Young environmental activists and Do-It-Ourselves (DIO) politics: collective engagement, generational agency, efficacy, belonging and hope	Journal of Youth Studies
2022	Rödger, S.; Pavenstädt, C. N.	'Unite behind the Science!' Climate movements' use of scientific evidence in narratives on socio-ecological futures	Science and Public Policy
2019	Sanson, A. V.; Van Hoorn, J.; Burke, S. E. L.	Responding to the Impacts of the Climate Crisis on Children and Youth	Child Development Perspectives

2023	Schuster, M.; Bornhöft, S. C.; Lueg, R.; Bouzzine, Y. D.	Stock price reactions to the climate activism by Fridays for Future: The roles of public attention and environmental performance	Journal of Environmental Management
2023	Schwörer, J.	Mainstream parties and global warming: What determines parties' engagement in climate protection?	European Journal of Political Research
2023	Schwörer, J.; Fernández-García, B.	Climate Sceptics or Climate Nationalists? Understanding and Explaining Populist Radical Right Parties' Positions towards Climate Change (1990-2022)	Political Studies
2021	Svensson, A.; Wahlström, M.	Climate change or what? Prognostic framing by Fridays for Future protesters	Social Movement Studies
2024a	Trott, C. D.	Envisioning action-oriented and justice- driven climate change education: Insights from youth climate justice activists	Children & Society
2024b	Trott, C. D.	Rewriting the climate story with young climate justice activists	Geographical Research
2024c	Trott, C. D.	"It Can't Just Be the Younger People": Exploring Young Activists' Perspectives on Intergenerational Tensions and Solidarities for Climate Justice	Journal of Community & Applied Social Psychology
2024d	Trott, C. D.	Activism as education in and through the youth climate justice movement	British Educational Research Journal
2023	Van de Velde, C.	'What have you done to our world?': The rise of a global generational voice	International Sociology
2022	Venghaus, S.; Henseleit, M.; Belka, M.	The impact of climate change awareness on behavioral changes in Germany: changing minds or changing behavior?	Energy, Sustainability and Society
2021	Wallis, H.; Loy, L. S.	What drives pro-environmental activism of young people? A survey study on the Fridays For Future movement	Journal of Environmental Psychology

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