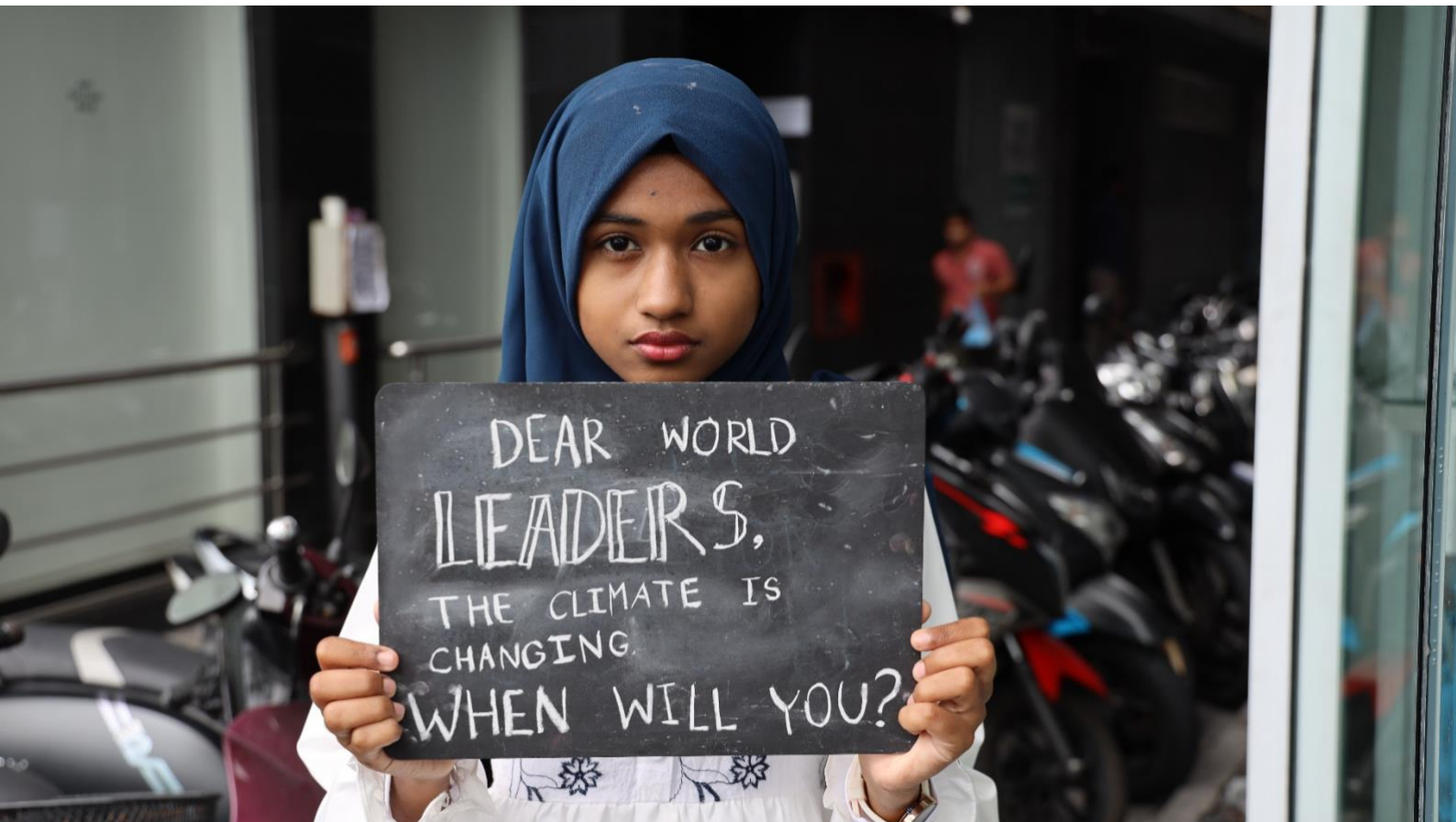


WORKING PAPER

Emerging Breakthroughs on Climate Change

May 2025



Preface

What does the future of climate action look like? More importantly, how do young people - who will inherit both the challenges and solutions of today's climate decisions - envision this future?

We set out to answer these questions with twelve UNICEF Leading Minds Fellows on Climate: distinguished activists, civil society leaders, policymakers and entrepreneurs representing diverse regions, perspectives and experiences. These young leaders bring unique insights from their work on the frontlines of climate action, from advancing climate education in schools to leading some of the largest cases of climate litigation.

This work represents our continued commitment to elevating youth perspectives beyond consultation into the realms of strategy and policy design. Our objective was not simply to identify potential solutions, but to understand them through the lens of children and youth - examining their implications for future generations and their potential to advance child rights in a changing climate.

At UNICEF Innocenti, the Global Office of Research and Foresight, we believe that multilateral organizations must create pathways for young people to meaningfully contribute to decision-making processes. The Leading Minds Fellowship exemplifies this approach: creating a space where young leaders' expertise, priorities, and lived experiences directly shape our premier platform for global thought leadership. Through this fellowship, we recognize that young people are architects of transformative solutions who bring critical insights that must inform the highest levels of strategy. The Fellows' analysis reveals both promising opportunities and critical concerns across key cross-cutting areas that go beyond the current paradigms of mitigation and adaptation. Their work demonstrates that meaningful youth engagement requires dismantling barriers that young people face in policy spaces and creating genuine opportunities for them to shape decisions that will affect their futures.

Furthermore, this report represents UNICEF's commitment to upholding children's right to participate in decisions that affect their futures, recognizing that the climate crisis is fundamentally a child rights crisis. We are convinced that working with young people as equal partners - not just for them - is essential to creating effective and equitable climate solutions. We strive towards a future where every climate policy, program, and initiative is designed *with* and *for* children and youth, where their voices shape decisions, and where intergenerational collaboration ensures no child is left behind in our response to climate change.

The insights and recommendations presented here challenge us to think differently about how we approach climate action. They remind us that the most effective solutions will come from meaningfully engaging those who have the most at stake in our shared climate.



Bo Viktor Nylund
Director
UNICEF Innocenti – Global Office of Research and Foresight

Executive summary

The "Emerging Breakthroughs on Climate Change" report reflects the innovative ideas and bold solutions we, the [UNICEF Leading Minds Fellows on Climate](#), have explored and developed. As young climate leaders, we have focused on five critical areas to address the global climate crisis: Eco-Literacy, Equitable Energy Transitions, Climate Finance, Loss and Damage, and Community-Centric Governance.

To develop these solutions, we undertook a comprehensive trend analysis and horizon scanning exercise, identifying over 150 climate signals across these five key areas. Through collaborative sensemaking sessions, we systematically analyzed, validated, and prioritized these signals based on their potential impact on children and youth.

In strategic foresight, a signal is an early indicator of potential change - a development, innovation, or emerging practice that may grow in significance over time. Signals can be examples of new policies, technologies, cultural shifts, or grassroots initiatives that, while perhaps small or localized now, could transform systems in the future. By identifying and analyzing these signals, and grouping them to larger emerging trends, we can better anticipate future developments and proactively shape climate action.

These climate breakthroughs represent fresh perspectives and offer actionable strategies to drive climate action to ensure a sustainable future for everyone, particularly for our next generation. Our insights reflect the urgent need to shift global systems towards equity, sustainability, and resilience, and highlight the essential role young people must play in leading these solutions.

- **Eco-Literacy** emphasizes the need for formal climate education, peer-to-peer learning, and cultural engagement to equip young people like us with the knowledge and skills to lead climate action from the political level to on the ground actions.
- **Equitable Energy Transitions** focuses on financing solutions, country-specific strategies, and collaborations that will help move beyond fossil fuels, ensuring clean energy benefits reach those most vulnerable.
- **Climate Finance** identifies policies and financial mechanisms to redirect global investments toward climate resilience, debt relief, and funding for loss and damage, particularly in developing nations.
- **Loss and Damage** underscores the need to support countries and communities in addressing the unmitigated impacts of climate change, while also advocating for better measurement of non-economic loss and damage, such as in relation to cultural heritage and education.
- **Community-Centric Governance** explores the importance of decentralized governance, youth inclusion, and granting legal personhood to nature as essential strategies for empowering local communities and ensuring just environmental stewardship.

The potential solutions we are highlighting are not just technical fixes, but social, political, and cultural shifts that aim to reshape the way the world responds to climate change. We are calling on leaders to embrace emerging breakthroughs and recognize the power of the next generation of climate leaders in driving new thinking. The opportunity is now to turn today's challenges into tomorrow's progress. **Together, we can forge lasting partnerships across generations and sectors, working collaboratively to build a sustainable, equitable future where every child can thrive.**

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Leading Minds Fellows on Climate



Alejandro Daly (Colombian/Venezuelan) is a master's graduate (Columbia University School of Int' and Public Affairs) and World Economic Forum's Global Shaper. At 28, he leads advocacy on air pollution, climate action, and refugee rights. He was President of ElDerecho a No Obedecer, where he mobilized 200,000+ youth, co-founding initiatives like the Latin American Coalition for Clean Air. He is also a migrant and award-winning activist who is fighting xenophobia and promoting sustainable environmental policies.



Eric Njuguna (Kenyan) is a 23-year-old Nairobi based youth climate justice organizer fighting for a just, equitable, funded, debt free and feminist transition to a fossil free future. They organize with Fridays for future MAPA, the global south collective of climate justice groups. They are also a youth champion of the fossil fuel non-proliferation treaty initiative and the global co-coordinator of the Alliance of non-governmental radical youth (A.N.G.R.Y).



At 18, **Catarina Lorenzo (Brazilian)** is a notable figure as a global social-environmental and climate activist and a professional surfer. Her activism journey began at 12, when she was part of a group that filed the "children. vs. climate crisis" petition at the UN. Catarina's involvement extends to leadership roles in Heirs to OurOcean, Child Rights Connect, and the S.O.S Vale Encantado collective. A pioneer in environmental education, she founded EcoClub Sustentare, showcasing her dedication to sustainability and youth empowerment in environmental advocacy.



Ema Meçaj (Albanian), a 20-year-old youth activist and medical student, passionately advocates for children's rights, gender equality, and climate action. Her engagement with the UN in Albania, OSCE, UNICEF, and the Western Balkans Youth Partners Group illustrates her commitment to these causes. Ema's influence spans European and UN platforms, where she has championed youth empowerment and gender equality, highlighting her pivotal role in shaping policies and discussions on global issues.



Farzana Faruk Jhumu (Bangladeshi), driven by the climate crisis' impact on Bangladesh, has emerged as a vocal advocate for climate action. As a 26-year-old, her involvement with Fridays For Future, UN Women, and 350.org, coupled with her role in launching the Children's Climate Risk Index and serving as a UNICEF Youth Advocate, highlights her influential role in global climate discussions and her dedication to incorporating youth voices in climate policy.



Francisco Vera Manzanares (Colombian), a 15-year-old human rights and environmental defender, has made significant strides in advocating for climate justice and the right to a healthy environment. As the founder of Guardianes Por La Vida, he mobilizes children for climate justice, earning recognition from global entities for his contributions to a more inclusive society with climate and social justice at the forefront.



Gunnhildur F. Hallgrimsdottir (Icelander), a 22-year-old student currently studying at Harvard University, is also a Deputy member of Parliament for the Pirate party. Her advocacy for climate policy and youth inclusion demonstrates a strong commitment to addressing environmental issues through legislative action and highlights the importance of integrating youth perspectives into policy discussions.



Hailey Campbell (American), Co-Executive Director of Care About Climate and experienced leader in climate adaptation efforts, brings a multifaceted approach to climate action and policy. At the age of 26, her efforts to empower youth in climate policy and her leadership in community-led climate adaptation initiatives underscore the critical role of inclusive strategies in addressing climate challenges.



Mariam Hassan Al Ghafri (Emirati), a 17-year-old leader, exemplifies the intersection of technology, environmental advocacy, and youth activism. With multiple educational and community awards, inventions, and active involvement in various environmental and scientific clubs, Al Ghafri's work not only showcases her ingenuity but also her commitment to fostering a sustainable future through innovation and education.



Nikka Gerona (Filipino), a 25-year-old Climate Reality Leader and UNICEF Advocacy Champion, plays a pivotal role in international organizations, advocating for environmental and climate action. Her engagement with UNICEF, UNDP, and various youth and environmental platforms demonstrates her dedication to advancing climate action through strategic advocacy and policy influence.



Sonko Jamal (Ugandan), a 26-year-old environmental entrepreneur, has founded Kyuka Ventures to address environmental challenges through innovative solutions. His work in waste management and venture development showcases his commitment to sustainability and social impact, emphasizing the potential of entrepreneurship in driving environmental change.



Winifred Awinpoya Atanga (Ghanaian), at 24, is a COP28 International Youth Climate Delegate and founder of the Conservation Leaders Network, advocating for climate literacy and sustainable energy in marginalized communities. Through projects like EcoCook and EcoHomes, she bridges sustainability gaps in Africa. A renowned speaker and environmental advocate, Winifred champions youth inclusion and education in climate action, highlighting her dedication to empowering communities for a sustainable future.

Youth perspectives on climate breakthroughs

What kind of future do we want to create—for ourselves and for generations to come? As young climate leaders, we are not just asking this question—we are using research and foresight to answer it. Climate change is the defining crisis of our time, and its impacts are being felt most acutely by the youngest and most vulnerable. Across the globe, we are not only on the frontlines of this crisis but also at the forefront of its solutions. Through grassroots movements, community initiatives, and advocacy campaigns, we are mobilizing, raising awareness, and influencing policy decisions that challenge the status quo to bring about fundamental shifts in climate action.

UNICEF recognizes that we, as young climate leaders, are increasingly demanding action and driving the transformation necessary to address the climate crisis. Our voices are critical in shaping future policies, and UNICEF is amplifying them through meaningful engagement in research, foresight and convening. This approach acknowledges a powerful truth: the best hope for a sustainable planet is if environmental sustainability becomes the new "business as usual" for current and future generations.

Children and young people have historically been powerful agents of change. It is only right that we are actively involved in shaping the future — our future and the future of our planet. We have the right to participate in discussions about the environmental challenges we will inherit, while also acquiring the skills, knowledge, and confidence necessary to navigate and address these urgent issues. Our activism and engagement are crucial to steering global efforts toward cultivating community-driven strategies that influence policy development. Involving children and young people in climate action is not just an ethical obligation—it is essential for effective, sustainable decision-making.

This report presents a comprehensive analysis of climate breakthroughs that emerged from the [Leading Minds Conference on Climate](#). This gathering brought together some of the top climate thinkers, innovators, influencers, policymakers, and young leaders, to address one of the most pressing challenges of our time: creating sustainable and equitable solutions for future generations. These breakthroughs offer actionable insights for policymakers, practitioners, and advocates who are working toward a greener and more equitable future.

After COP29, a New Collective Quantified Goal on Climate Finance (NCQG) was agreed upon to support developing countries in their climate mitigation and adaptation efforts. While this goal represents a tripling of the previous commitment from 2015, many experts and developing nations argue that it remains critically insufficient to address the escalating impacts of the climate crisis. As we approach COP30, there is a pressing need to ensure that climate finance mechanisms and actions are fit for children, recognizing that children are disproportionately affected by climate change.

Convening young people through platforms like the Leading Minds Fellowship gives us direct access to global decision-makers, enabling our voices to extend beyond our communities and influence national and international policies. In partnership with UNICEF and the UNICEF 2024 Leading Minds Fellows on Climate, we have come together to scan the horizon to find signals of the future of climate action.

It is important to note that the perspectives shared in this report do not represent the official stance of UNICEF nor the unanimous view of all young people involved in the process. Rather, they reflect the rich diversity of opinions and ideas generated through our collaborative exploration of the future of climate action.

This report aims to highlight signals of emerging breakthroughs in climate action through the lens of children and youth, recognizing that these are not necessarily unprecedented solutions, but rather potential catalysts for systemic change. Through our role as UNICEF Leading Minds Fellows on Climate, working alongside young climate leaders globally, we bring forward perspectives on emerging solutions that could reshape our response to the climate crisis. This publication is not intended to endorse any particular breakthrough but is rather a call from young climate leaders to understand signals of change on climate action. The report serves multiple audiences - from UNICEF and international organizations to policymakers, practitioners, and civil society actors - each of whom has a crucial role in evaluating these solutions. By mapping opportunities and concerns across five thematic areas, we aim to help stakeholders identify where and how they can most effectively contribute to advancing climate solutions that benefit children and future generations, while ensuring young voices remain central to how and whether these solutions develop and scale.

Our generation is ready to lead, but we need the collaboration and support of those who hold power today. Together, we can transform these ideas into actions that ensure a future where equity, sustainability, and justice prevail. **The future is ours to create —will you act with us to shape it?**

Why climate breakthroughs?

In an era where the impacts of climate change are becoming increasingly severe and unpredictable, identifying and leveraging breakthroughs is critical for steering global efforts towards sustainable solutions. Climate breakthroughs, as defined in this report, are **significant** advancements in leadership, innovation, policy, science, technology, finance or culture, **which have the potential to substantially contribute to the mitigation of or adaptation to climate change**.

Breakthroughs are pivotal because they signal progress in overcoming systemic barriers and provide actionable pathways that can transform the trajectory of climate action. These climate breakthroughs are not necessarily unattempted solutions or technological revolutions. Rather, they represent an identification of signals that could catalyze systemic shifts when applied in the context of climate change. These often offer innovative, scalable, yet context-specific solutions that can be applied across regions, sectors, and demographics—especially impacting children, young and future generations who will inherit the climate crisis.

Methodology

This research is grounded in a comprehensive trend analysis and horizon scanning exercise conducted by a group of UNICEF Leading Minds on Climate Fellows. These fellows represent a diverse array of voices and expertise across 12 different countries, bringing together varied perspectives from the climate movement. In early 2024, the fellows embarked on an in-depth exploration to scan and identify over 150 signals of potential climate breakthroughs across five thematic areas: Eco-Literacy, Equitable Energy Transitions, Climate Finance, Loss and Damage, and Community-Centric Governance. Figure 1 provides an overview of the collected signals of climate breakthroughs across six months.

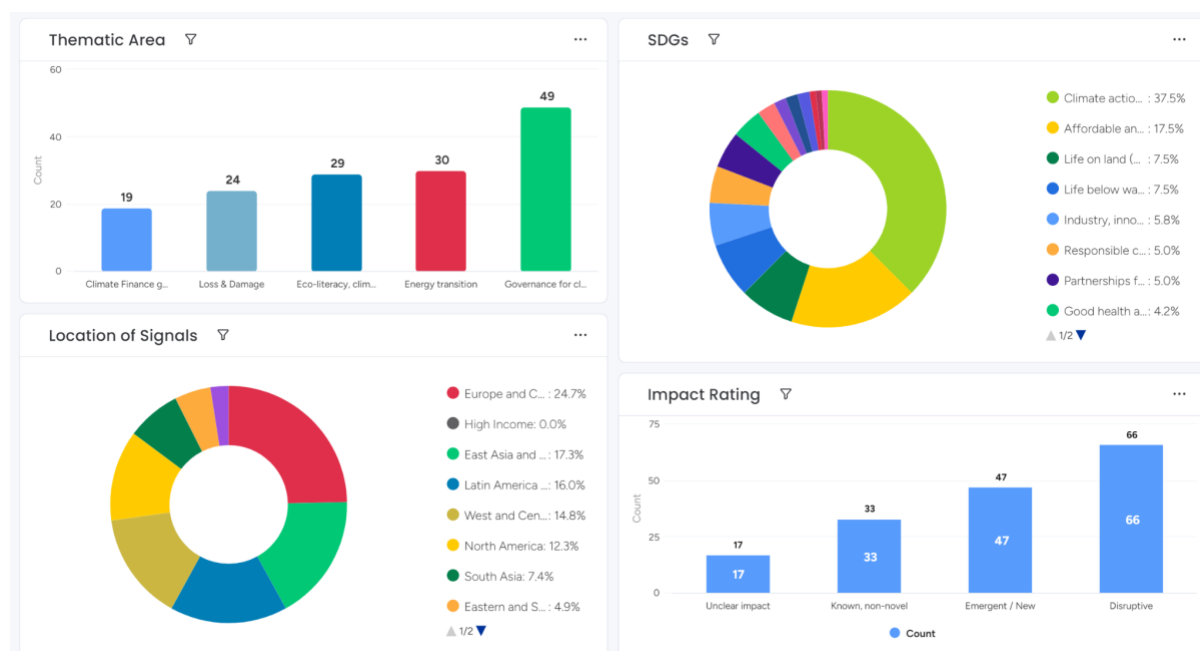


Figure 1: Overview of evaluated climate breakthrough signals, and their breakdown on thematic area, Sustainable Development Goal (SDG), location and impact rating.

The analysis demonstrates the deeply cross-cutting nature of climate breakthroughs. While climate action (SDG 13) represents 37.5% of the recollected signals, the distribution across multiple SDGs - including affordable energy (17.5%), life on land (7.5%), and life below water (7.5%) - demonstrates how climate solutions inherently intersect with broader sustainable development goals and highlights the need for interdisciplinary and transdisciplinary breakthroughs. Geographically, signals emerged from diverse regions, with Europe and Central Asia leading at 24.7%, followed by balanced representation from East Asia (17.3%), Latin America (16%), and West/Central regions (14.8%), among other regions. 63 signals were catalogued as global, given their potential to impact multiple regions, such as those signals related to multilateral treaties or agreements. Notably, signals were captured from a range of sources, including youth-oriented platforms like Instagram or TikTok, reflecting the evolving landscape of climate communication and youth engagement.

Through a collaborative process of grouping similar signals and collaborative prioritizing, the cohort identified 26 key climate breakthroughs across the five thematic areas. The selected breakthroughs represent significant and emerging developments based on their potential relevance and impact for the youngest. The team then employed the futures wheel method, a structured foresight technique to analyze each breakthrough's direct and indirect consequences, mapping both first- and second-order impacts through the STEEP-V framework (Social, Technological, Economic, Environmental, Political, and Value factors). This encourages interdisciplinary perspectives on impacts, allowing us to explore how these breakthroughs might directly and indirectly affect children and youth in multiple ways, revealing both intended and unintended consequences that deserve consideration.

In evaluating each signal, the team employed a signal scoring system ranging from 1 to 5 to assess its potential impact and novelty. Signals ranging from "1" represented known or widely established practices, conversely, signals scored as "5" indicated novel breakthroughs with significant future-shaping potential, particularly those introducing transformative approaches to climate action. Each signal was also analyzed through the lens of the Convention on the Rights of the Child (CRC), mapping how these climate breakthroughs intersect with and potentially impact fundamental children's rights.

The horizon scanning methodology, while powerful for identifying emerging climate breakthroughs, presented challenges and learning opportunities. Signal contribution among team members varied significantly, reflecting the inherent difficulties young activists face in consistently engaging in intensive research processes alongside their other commitments and responsibilities. Additionally, many valuable signals observed by youth in their local contexts or through community engagement proved difficult to reference through traditional sources, highlighting a potential gap in how we document and validate emerging climate innovations, particularly those arising from grassroots movements and indigenous communities.

Furthermore, while the cohort was represented by leaders of different nationalities, truly capturing the breadth of youth perspectives on climate breakthroughs would require expanding horizon scanning exercises to include more diverse voices, especially from underrepresented regions and marginalized communities. This broader inclusion would not only enrich the signal identification process but also ensure that identified breakthroughs reflect the varied experiences and needs of young people globally. Despite these challenges, horizon scanning proved valuable in systematically identifying emerging climate solutions, and its continued refinement as a youth-inclusive methodology could significantly strengthen our understanding of transformative climate action opportunities.

I. Eco-literacy



Eco-literacy

CHILD RIGHTS IN FOCUS



HORIZON SCANNING METRICS



31 identified signals



Average Signal Score: **4.0/5**
(Potential to change existing systems significantly)

Eco-literacy has emerged as a critical avenue through which societies worldwide are tackling environmental challenges. Today, [green jobs](#)¹ are already [outpacing the growth](#)² of green skills. 70% of young people [surveyed by UNESCO](#)³, with similar findings from [UNICEF Gallup](#)⁴, say that they do not comprehend climate change or can only explain it in broad principles. This knowledge gap underscores the importance of early childhood development (ECD) as a [unique window of opportunity](#)⁵ for building eco-literacy, as the foundations for environmental awareness and connection to nature are established in the earliest years. During this period, children are [especially receptive](#)⁶ to learning and forming relationships with the natural world.

By cultivating a deeper understanding of ecological systems and the impact of human activities, eco-literacy empowers individuals and communities to make informed decisions that promote sustainable and climate just futures. This report identifies key breakthroughs in eco-literacy that are shaping educational paradigms and influencing global environmental stewardship.

Formal education: climate curricula in schools

A significant development in eco-literacy is the formal integration of climate education within school curricula. [Countries like Italy](#)⁷ and [Argentina](#)⁸ have pioneered this approach by becoming some of the first countries to mandate climate change education in schools. This movement is gaining momentum globally, with [states like New York](#)⁹ considering legislation to embed climate education in all public schools. Programs like [SHORE](#)¹⁰ are bringing blue curricula to schools to deepen ocean and water literacy. Additionally, university [business schools](#)¹¹ and other faculties are increasingly incorporating sustainability and climate change into their programs, reflecting the growing importance of environmental considerations in corporate governance and strategy.

The further integration of climate education into formal curricula can drive significant societal transformations. By encouraging critical thinking about environmental issues, it can increase student interest in climate fields and STEM careers, foster deeper connections with nature, promote indigenous wisdom integration, and catalyze behavioral changes in communities. Beyond individual impact, formal climate education can help develop an early mindset of environmental stewardship, potentially influencing students' future career choices and their understanding of human-nature relationships.

Social media, peer-to-peer learning and storytelling on climate

Innovative peer-to-peer learning strategies, including the use of storytelling and social media, represent a dynamic shift in how eco-literacy is promoted. These methods leverage the relational networks and digital proficiency of young people, facilitating more engaging and [relatable climate education](#)¹². Platforms like [TikTok](#)¹³, and Instagram have become instrumental in this regard, allowing users to share stories, experiences, and knowledge about sustainability and climate action, and to inform signals of breakthroughs for this research.

These approaches can influence political narratives and improve climate literacy among decision-makers, potentially leading to better policy choices. While the impact of social media on learning outcomes and critical thinking remains debated, these platforms have demonstrated effectiveness in rapidly disseminating climate information. Through social media, climate awareness can reach broader audiences as youth share knowledge with their families and communities, though the quality and depth of this knowledge transfer requires continued evaluation.

Digital media to fund conservation efforts

Digital platforms emerge as innovative tools to fund conservation efforts while expanding environmental awareness. Cultural initiatives are transforming how environmental messages reach new audiences - from "[Nature](#)" becoming an artist on Spotify¹⁴ to raise conservation funds, to [KPOP4Planet](#)¹⁵ mobilizing fan communities for climate action. These digital approaches merge entertainment with environmental consciousness, creating new funding streams for conservation while engaging audiences who might not traditionally connect with climate issues. Additionally, creative projects like [Art made of Storms](#)¹⁶ demonstrate how digital media can translate complex environmental data into accessible visual narratives, making scientific concepts more comprehensible to broader audiences.

By conveying environmental messages and cultural values through informal, entertainment-based channels, these initiatives can make climate action more accessible and relatable to diverse audiences. This approach not only generates new funding streams for conservation and artistic projects but also encourages citizens to incorporate environmental consciousness into their daily lives. Moreover, the creative intersection of digital media and environmental advocacy can spark innovative solutions to complex climate challenges, demonstrating how cultural platforms can serve both as educational tools and catalysts for conservation action.

Climate policy literacy

Expanding eco-literacy among decision-makers and advocates for change has become an integral component for ensuring decision-makers have the background to promote change. The Inter-Parliamentary Union launched [Parliaments for the Planet](#)¹⁷ to equip global parliamentarians with the knowledge to act on climate change, while the World Health Organization launched [Climate, Health, and Environment Briefs](#)¹⁸ for the first time in 2023. Organizations led by experienced youth climate organizers, such as the [Youth Climate Negotiators Academy](#)¹⁹ and the [International Climate Policy and Advocacy Course](#)²⁰, have launched efforts to ensure their peers and future generations have the skills to hold policy-makers accountable to their futures.

Enhanced climate knowledge among decision-makers, from politicians to accountants, can create more green job opportunities for youth while improving policy decisions. This increased understanding leads to more inclusive climate policies that better serve affected communities.

Ema, 19: Education for Climate Action

“Investing in eco-literacy and inclusion of climate curricula in all levels of studies would be a social investment for all children and young people because it would equip them with the right knowledge to understand the climate issues and necessary green skills to act. Climate education is a crucial pillar for intergenerational behavioral change and for effectively adapting to climate change.”

II. Equitable energy transitions



Equitable energy transitions

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HORIZON SCANNING METRICS



31 identified signals



Average Signal Score: **3.0/5**

(Gaining traction, increasing importance)

Equitable energy transitions are crucial for mitigating climate change while ensuring that the benefits and burdens of these transitions are shared fairly among all nations, especially between developed and developing countries. This report outlines key breakthroughs that are shaping the landscape of equitable energy transitions, highlighting innovative approaches and collaborative efforts designed to facilitate a global shift towards renewable energy.

Closing the funding gap for a just energy transition

One of the most significant challenges in equitable energy transitions is the [vast funding gap](#)²¹, particularly in regions that lack the capital to invest in clean energy infrastructure. Bridging these gaps is critical for enabling these nations to leapfrog to cleaner technologies without compromising their developmental goals. Innovative financing solutions and international partnerships, like the [Just Energy Transition Partnerships \(JETPs\)](#)²², are emerging to address these gaps, however, there are [concerns of unequal and unjust impacts](#)²³ on communities as the partnership is coming in the form of loans rather than grants or reparations.

Efforts to close the funding gap for a just energy transition could significantly enhance access to affordable, sustainable energy sources that support children and youth's development into our future leaders. Increasing the deployment of renewable energy also opens doors for more green jobs. This feedback loop of increased access to both energy, green jobs, and education of future leaders, could result in a more diverse energy economy. However, the transition may also lead to economic disruptions in fossil fuel-dependent regions, potentially affecting family incomes and, consequently, children's access to resources and opportunities. A just transition is therefore imperative.

Alliances for a world beyond fossil fuels

As consensus grows on the need to move beyond fossil fuels, novel alliances are coalescing to drive this transition. The [Fossil Fuel Non-Proliferation Treaty](#)²⁴ initiative aims to create an international mechanism to equitably phase out fossil fuel production and expansion. The [Beyond Oil and Gas Alliance](#)²⁵ brings together countries committed to setting an end date for fossil fuel extraction and production within their territories.

The formation of alliances for a world beyond fossil fuels could strengthen regional cooperation and diplomacy, potentially creating a more stable global environment for children to grow up in. Such alliances may give developing countries a more influential voice in global climate negotiations and policymaking, which could lead to decisions that better reflect the needs of children in these regions. The potential for cross-border electricity grids and joint renewable energy projects could enhance energy security and improve air quality, benefiting children's daily lives across generations.

Country-specific energy transitions

There is increasing recognition that a one-size-fits-all approach will not work - context-specific and decentralized energy solutions are needed. Some countries are drafting National Energy Transition Frameworks tailored to their circumstances, like [Ghana](#)²⁶ factoring domestic realities and international relationships into its plan. Bangladesh's successful scale-up of [solar home systems](#)²⁷ for 20 million people exemplify contextualized solutions. Canada is creating opportunities for [co-ownership of microgrids](#)²⁸ with indigenous communities. Multiple countries are following the leadership of nations like [Costa Rica](#)²⁹ and have transitioned their energy systems to run [nearly entirely on renewable energy](#)²⁹. Even [cities are coming](#)³⁰ forward with their specific climate action plan to align with the Paris agreement.

The development of country-specific approaches to energy transitions could lead to more targeted and inclusive solutions for local energy needs. These strategies have the potential to create new opportunities for youth in emerging green energy sectors. By aligning with local contexts, these approaches may foster greater community engagement and ownership in the energy transition process. However, the long-term success of these strategies will depend on how effectively local energy requirements align with global climate goals, ensure equitable access to clean energy across different societal groups, and manage the challenges of phasing out existing fossil fuel infrastructure.

Concerns on carbon capture advancements

As carbon capture and storage (CCS) technologies evolve, their role in climate mitigation strategies is a matter for debate. The world's largest [direct air capture plan](#)³¹, Mammoth, became operational in Iceland recently as an improvement to previous plants using this technology. However, [frontline communities have argued](#)³² that CCS could divert attention and resources from emissions reduction efforts and may be used to justify continued fossil fuel use. On the other hand, there is a significant lack of public awareness regarding this technology, as many questions have continually arisen around the safety measures. Furthermore, though additional studies are needed, it's [acknowledged in the policy and scientific communities](#)³³ that leaked CO₂ from within carbon capture reservoirs could pollute drinking water, stimulate seismic activity, and harm biodiversity. Despite calls by the leading climate scientific authority, the IPCC, to [avoid overreliance on CCS technologies](#)³⁴, these are still present in [various National Determined Contributions](#)³⁵ (NDCs), even from resource-constrained developing countries.

While these technologies aim to mitigate climate change impacts that would affect future generations, there are concerns about potential environmental risks and the possibility that they could delay the transition of a fossil fuel phase-out. There's also a risk that the implementation of carbon capture projects could lead to land use conflicts or affect marginalized communities, potentially impacting future generations in these areas. These delays and risks could impact the quality of the environment that today's and tomorrow's children will inherit.

Systemic shift: Resource extraction for renewable energy materials

A shift to renewable energy generation should not perpetuate previous historical patterns of extractivism, despite the need for critical minerals for decarbonized grids. Lithium, cobalt, and rare earth elements are essential for technologies like batteries, solar panels, and wind turbines, but their mining can lead to significant ecological disruption and human rights issues. For instance, lithium extraction in South America's "Lithium Triangle" [has raised concerns](#)³⁶ about child labour, water scarcity and Indigenous rights. Some countries are taking proactive measures; [Ghana, Namibia, and Zimbabwe](#)³⁷ have banned raw lithium exports to promote domestic value addition. Innovations in recycling and [urban mining](#)³⁸ are emerging as potential solutions to reduce primary extraction needs, as well as the development of alternative technologies, such as [sodium-ion batteries](#)³⁹, also shows promise in diversifying resource requirements. [More studies](#)⁴⁰ on the social, environmental, and economic impacts of resource extraction for renewable energy materials are needed to inform guardrails, enhance benefits, and improve policy-making for a just transition. Recognizing these challenges, the UN Secretary-General established a [Panel on Critical Energy Transition Minerals](#)⁴¹ to develop principles for ensuring that mineral-rich countries and local communities benefit from the energy transition while emphasizing that "the race to net zero cannot trample over the poor."

While mining for clean energy supports the transition to decarbonization, which could benefit future generations, it also carries risks of environmental degradation, ecosystem disruption, and creation of new sacrifice zones in communities where mining occurs. This could disproportionately affect communities where children live, potentially leading to displacement of indigenous and local communities and adverse health impacts associated with mining practices. The process may create social tensions and conflicts over land rights and resource control, which could impact the stability of communities where children grow up.

Farzana, 26: Fair Energy Access for All

"All children and youth around the world should have the opportunity to enjoy access to energy; and this should be done in a way that would not heavily commit their natural resources. Children, especially in Least Developed Countries, should not have their resources taken away."

III. Climate finance



Climate finance

CHILD RIGHTS IN FOCUS



HORIZON SCANNING METRICS



19 identified signals



Average Signal Score: **3.2/5**

(Gaining traction, increasing importance)

While the world discusses new climate finance targets at COP 29, there are increasing calls for fairer distribution and access to climate finance. Climate finance is pivotal in the global response to climate change, enabling the necessary transitions to low-carbon and climate-resilient economies worldwide.

Equitable climate finance policies

There are increasing calls for an overhaul of the climate finance architecture and policies to make funding more accessible and fairer. The [Bridgetown Initiative](#)⁴² advocated ideas like using Special Drawing Rights for capitalization and delivering funds as direct transfers to vulnerable countries. The [New Collective Quantified Goal](#)⁴³ (NCQG), established at COP29, commits developed countries to mobilize at least \$300 billion per year by 2035 for developing countries with an [aspirational goal](#)⁴⁴ to scale up total climate finance to \$1.3 trillion annually from all sources, though [more work is needed](#)⁴⁵ to ensure equitable distribution and adequacy of the funding. The allocation of such resources must also better attend the needs of children and young people, as currently, only [2.4% of key climate funds](#)⁴⁶ is estimated to be directed toward child-responsive programmes.

Equitable climate finance policies have the potential to strengthen institutional resilience and expand efforts for climate justice, impacting young people's right to a clean, healthy, and sustainable environment. There is a need to support large-scale investments in climate-resilient development, prioritizing all children and youth. Moreover, the inclusion of child and youth sensitivity criteria in climate policies could ensure that their specific needs and vulnerabilities are addressed, especially in the establishment of NDCs, where [alignment efforts](#)⁴⁷ by organizations like UNICEF must be scaled to reach more children and young people worldwide.

Debt cancellations

Unsustainable debt burdens have hamstrung many developing countries' ability to invest in climate resilience and mitigation. As such, some are advocating for comprehensive [debt cancellation](#)⁴⁸ to free up fiscal capacity. Proposals have included partial debt relief, debt-for-climate swaps, and outright multilateral debt cancellation- especially for [small island nations](#)⁴⁹ facing existential climate threats but economically paralyzed by debt overhangs.

Debt cancellation could significantly enhance developing countries' capacity to invest in climate resilience and mitigation strategies, particularly benefiting children and youth. By freeing up fiscal resources, countries could increase investments in child-targeted climate policies, supporting both climate adaptation and an equitable green transition. This approach could also help reduce the inequality gap between high-income countries and low- and middle-income countries, enabling developing nations to better protect vulnerable groups from climate impacts and build long-term resilience. However, the effectiveness of debt cancellation in driving climate action will depend on how freed-up resources are allocated and managed.

Redirecting fossil fuel subsidies for climate

Currently, direct subsidies for fossil fuels outstrip global climate finance commitments. Experts point to [eliminating](#)⁵⁰ or redirecting these perverse incentives as a major breakthrough opportunity. Estimates suggest rerouting just a fraction of the \$5.9 trillion in fossil fuel subsidies could cover investment needs for renewables, efficiency, and resilience while providing a sustainable source for loss and damage funding. Redirecting fossil fuel subsidies is possible. [Canada](#)⁵¹ and [Indonesia](#)⁵² are working to reduce subsidies for fossil fuels and repurposing it for climate action.

Redirecting fossil fuel subsidies would lower global greenhouse gas emissions, subsequently reducing air pollution and children's exposure, thereby contributing to their improved physical health and well-being. The freed-up revenue could increase funding for innovative solutions to build climate resilience, potentially creating new opportunities for young people in the growing green economy. In order to ensure the working class are not severely impacted by a loss in jobs associated with the phase out of such subsidies, a just transition will be necessary.

Taxation of wealth and climate damages

Novel tax approaches are increasingly being raised to address the climate finance needs and ensure those with the greatest capacity and responsibility contribute their fair share. A Global wealth tax could raise billions by levying progressive rates based on individuals' or corporations' total wealth above a certain threshold. A UN report estimated that [taxing 1.5% of wealth](#)⁵³ over 100 million could raise nearly \$300 billion, an amount close to the adaptation financing gap. Simultaneously, [climate damages taxes](#)⁵⁴ aim to hold polluters accountable for the costs of climate-induced losses. For instance, Vermont recently passed a bill to charge fossil fuel companies for climate-related damages, creating a "[climate superfund](#)⁵⁵."

By targeting wealth and climate damages, the taxes could generate substantial funds for adaptation and mitigation efforts, potentially closing financing gaps. These taxes would support redistributive justice, funding, for instance, local enterprises or nature-based solutions in vulnerable communities. Environmental benefits could include reduced greenhouse gas emissions and air pollution, protecting children's health and well-being. Wealth taxes, as well, provide opportunities for fairer redistribution, especially for children at all socioeconomic levels.

Climate budgeting

Integrating climate change into financial decisions from the start can increase long-term cost-savings from climate impacts and increase access to funding for the implementation of climate action plans. [Cities around the world](#)⁵⁶ are piloting climate budgeting initiatives, such as how [Oslo](#)⁵⁷ is setting carbon emission reduction targets and assessing the climate impact of municipal investments. Financing eco-

literacy is equally as important: as recognition grows on the necessity of widespread eco-literacy, securing funding for educational programs, outreach, and capacity building in this arena is crucial. Education in climate finance involves teaching individuals and policymakers about funding models, investment strategies, and economic policies that support sustainability projects. This knowledge is crucial for making informed decisions that align financial and environmental goals, particularly in developing strategies for funding large-scale climate resilience and adaptation projects.

Climate budgeting can drive transformation across several key areas. In environmental protection, it can support initiatives such as clean energy infrastructure development, fossil fuel phase-out programs, and early warning systems for disaster risk reduction. In social development, it can advance programs such as climate education reform, youth skill-building for climate action, and gender-responsive disaster planning. On the economic front, it can enable improvements such as reduced financial disparities, accelerated green job creation, and enhanced post-disaster recovery mechanisms. By strategically planning and allocating resources across these areas, climate budgeting can protect children's health and wellbeing.

Challenging development of carbon markets

Carbon markets have emerged as one of the most recurrent points of discussion within the Conference of the Parties (COPs) and the Paris Agreement. Originally intended as complementary to reducing emissions cost-effectively and as an opportunity to drive investment in low-carbon technologies, there are several shortcomings, including the risk of [double-counting](#)⁵⁸ emissions reductions, the potential for carbon leakage, and concerns about the transparency in the carbon market transactions as regarding the lack of [additionality](#)⁵⁹ of offset projects. There are also [equity concerns](#)⁶⁰, as carbon markets may allow wealthy nations and corporations to continue polluting by purchasing offsets from developing countries. The [integrity of carbon credits](#)⁶¹ has been questioned, with studies showing that many offset projects fail to deliver promised emissions reductions as a form of greenwashing. Despite these challenges, efforts continue to refine carbon market mechanisms, through robust regulations and transparency as there is potential to create global cooperation, [close the nature and climate financing gaps](#)⁶² through their establishment.

Carbon market development presents mixed implications for future generations. While these markets could advance economic development and fund climate action, supporting NDCs and building community resilience, significant risks remain. The lack of transparency in carbon market transactions and the potential for greenwashing could undermine genuine efforts to create a sustainable future for young people. Moreover, if these markets allow high-income countries to continue polluting by buying credits from low- and middle-income countries, it could perpetuate environmental injustices that disproportionately affect developing nations.

Hailey, 26: Redirecting Funds for Our Planet

"Everyday, our public tax and consumer dollars flow directly into the hands of companies and fossil fuel-based energy governance systems that are actively destroying our futures and our planet. Fixing the global financial architecture not only alleviates the unequal financial burden of climate impacts placed on countries least responsible for the climate crisis, but funds our future as young people."

IV. Loss and damage



Loss and damage

CHILD RIGHTS IN FOCUS



HORIZON SCANNING METRICS



25 identified signals



Average Signal Score: **3.8/5**

(Potential to change existing systems significantly)

As the impacts of climate change intensify, the focus on loss and damage mechanisms is gaining unprecedented momentum. We identify key breakthroughs that are reshaping how the global community addresses the consequences of climate change, particularly in terms of losses and damages. This analysis covers established mechanisms like dedicated funds and insurance solutions, as well as emergent challenges and novel solutions in measuring and compensating for these losses, including cultural damages.

Climate litigation

Failure of governance systems to address the climate emergency have left citizens and activists no choice but to turn to the courts to compel stronger climate action by governments and corporations. Youth activists are suing for the rights of future generations at all levels. [Pacific Islands students](#)⁶³ have taken the right of future generations to a livable future to the International Court of Justice, an [Australian Youth](#)⁶⁴ successfully sued a pension fund for not considering climate risks, [elderly women in Switzerland](#)⁶⁵ won a climate lawsuit, and [young people in the United States](#)⁶⁶ continue to sue local and national governments over climate injustice. Municipal leaders, like [Chicago](#)⁶⁷ and [Hawaii](#)⁶⁸, are suing fossil fuel corporations over climate damages and deception. Judges from [India](#)⁶⁹ to [Europe](#)⁷⁰ have issued groundbreaking rulings recognizing rights violated by inadequate climate policies.

Climate litigation is a powerful tool to address the unequal impacts of climate change, potentially reshaping social norms based on values of equity and intergenerational justice. For young people, this could mean stronger protection of their rights to a healthy environment and a livable future. In the future, climate litigation could encourage a gender-responsive green transition and support a global shift to renewable energy, potentially creating a more sustainable world for future generations.

Dedicated funds for loss and damage

The establishment of a [dedicated fund for loss and damage](#)⁷¹ represents a foundational breakthrough to provide resources after climate impacts, and additional funds are needed to bring these resources to communities. These funds are designed to provide financial resources to countries and communities most affected by climate disasters that are beyond their capacity to adapt. This [financial mechanism](#)⁷²

is intended to support recovery and rebuild efforts in a way that acknowledges the disproportionate impact of climate change on vulnerable populations, however, it is severely underfunded, with only [\\$85 million in pledges](#)⁷³ gathered at COP 29 to reach a total contribution of less than \$800 million. Closely related is the growing call for **climate reparations** - [compensation](#)⁷⁴ from wealthy, high-emitting nations to lower-income countries disproportionately suffering loss and damage despite negligible contributions to global emissions.

Dedicated funds for loss and damage are intended to provide financial support for communities affected by climate impacts. For future generations, this could mean growing up in communities with better resources to recover from disasters, potentially reducing the need for movement and displacement in the context of climate change. However, the extent to which these funds protect young people's futures will ultimately depend on their implementation and equitable distribution, especially for frontline communities.

Climate risk insurance

Climate risk insurance are mechanisms to be scaled that provide immediate financial assistance to those affected by extreme weather events. Insurance helps to mitigate the financial instability that can result from disasters, allowing individuals, businesses, and governments to recover more swiftly and effectively, as demonstrated by mechanisms like the UNICEF [Today & Tomorrow initiative](#)⁷⁵, targeted for children and young people .

Climate risk insurance schemes could channel financial resources to support the recovery of low-income and developing countries, potentially mitigating future loss and damage. For children and youth, this could mean living in communities better prepared for climate disasters, with improved disaster risk reduction coordination. There are concerns of potential increased economic inequality if insurance is not accessible to all, and that focusing exclusively on insurance might become a replacement for investing in necessary climate action.

Measurement of non-economic damages

While economic loss metrics exist, major gaps remain in quantifying the [non-economic](#)⁷⁶, intangible dimensions of loss and damage- from cultural heritage erosion to permanent loss of homeland and human displacement. Climate impacts also take a [significant psychological toll](#)⁷⁷, triggering emotional distress, anxiety disorders, PTSD, and depression, particularly among those who have lost loved ones or been displaced by disasters. Developing comprehensive frameworks to measure and compensate for these profound non-economic damages is an emerging frontier being advanced by Small Island Developing States (SIDS), Indigenous groups, and other vulnerable populations.

The measurement of non-economic damages is an emerging area with complex implications for children and youth, as there are concerns about the societal implications of putting a price on happiness or nature. For young people, this could lead to increased recognition of the profound non-economic impacts of climate change on their lives and futures, such as the increased eco-anxiety. However, there are also risks of increased inequality or conflict over what counts as non-economic damage and who is entitled to compensation.

Compensation for cultural damages

Closely tied is the challenge of developing solutions to address irreparable losses to cultures, identities and ways of life from climate impacts. As sea levels rise, archaeological/sacred sites are destroyed, species go extinct, and Indigenous territories become uninhabitable, new approaches may be needed beyond just financial compensation. [Tuvalu](#)⁷⁸, in the form of [digital nations](#)⁷⁹, has begun to explore a digital clone through the metaverse to preserve cultural aspects.

Compensating for cultural damage requires addressing multiple dimensions of loss. While technological solutions like digital preservation can help document endangered cultural heritage, they cannot fully replace the profound mental health impacts of losing ancestral lands and ways of life. Environmental restoration efforts often carry deep cultural significance, particularly for Indigenous communities whose identities are intrinsically linked to their territories. Recognition of nature-culture rights could help protect tight-knit communities and their cultural legacies, though the challenge remains at adequately compensating for irreplaceable cultural losses.

Nikka, 22: Prioritizing Youth in Climate Recovery

“Breakthroughs in Loss and Damage will recognize the importance of prioritizing young people’s well-being during climate disasters. This means funding will be allocated to the implementation of post-disaster activities or recovery plans aimed at providing long term support to help young people cope with the aftermath. Also, by doing so, we can ensure that young people are equipped with the necessary tools and guidance to be resilient in the wake of disasters”

V. Community-centric governance



Community-centric governance

CHILD RIGHTS IN FOCUS



HORIZON SCANNING METRICS



53 identified signals



Average Signal Score: **3.5/5**

(Potential to change existing systems significantly)

We explore significant developments in community-centric governance, particularly in the context of environmental and legal innovations. Community-centric governance focuses on empowering local communities to have greater control and say in the decisions that affect their environment and daily lives. We examine five key breakthroughs that represent both novel and established shifts in governance that could shape future policy landscapes.

Legal personhood for non-human entities

Granting legal personhood and rights to elements of the natural world like rivers, forests and animals is an emerging governance paradigm. This allows nature to be represented in courts, with appointed guardians able to file lawsuits on their behalf against exploitation or harm. Companies are allowed to be represented this way, why not nature? [Whales and dolphins](#)⁸⁰ are some of the first recognized as “legal people” by a treaty brought up by Pacific Indigenous leaders. [New Zealand, Ecuador and several U.S. municipalities](#)⁸¹ have enacted such laws, which proponents argue can better protect crucial ecosystems. However, despite the progress made in some countries, there still exists no international standards for recognizing the personhood of animals and other non-human entities. This lack of global standards leads to significant disparities in the level of protection provided to these beings. Therefore, government leaders must reach consensus to establish a unified set of standards, ensuring protection for all species across different jurisdictions.

By granting legal personhood to non-human entities, the environment could be afforded greater protection and consideration in legal decisions, ensuring a cleaner and safer world for future generations. This approach elevates the planet's status to equal footing with human and economic interests, strengthening Indigenous rights and cultural stewardship of lands. The resulting cleaner and safer environment could enhance recreational opportunities and community wellbeing, while enabling financial mechanisms like pollution fines to protect natural resources. Ultimately, this legal framework could help both nature and Indigenous communities thrive through enhanced protection and recognition of their interconnected rights.

Community-driven legislation against pollution

Communities are increasingly leveraging legal systems to address environmental concerns and hold polluters accountable. This shift goes beyond simple bans on specific pollutants, empowering local populations to define and defend their environmental interests. Communities in the [US](#)⁸² are monitoring air quality to inform policies. This bottom-up approaches have elevated to national level, for instance, [Kenya](#)⁸³ and [Colombia](#)⁸⁴ instituted one of the world's toughest anti-plastic laws, while [Vanuatu](#)⁸⁵ aims to be the first nation to ban disposable diapers and many single-use plastics by 2025. On a global scale, nations are advancing comprehensive environmental agreements, with over [170 countries](#)⁸⁶ actively negotiating the world's first legally binding Plastics Treaty, alongside other crucial initiatives like the [High Seas Treaty](#)⁸⁷ to protect marine biodiversity.

Community-driven legislation against pollution could lead to cleaner and thriving habitats, benefiting both the environment and public health. For young people, this could mean growing up in healthier communities with reduced exposure to harmful pollutants and increased connection with nature, instilling a long-term sense of value in nature. These laws might also inspire more young people to engage in civic activities, potentially increasing youth voter turnout and encouraging more young individuals to run for office, as they might more directly see the impact that legislation is having on their environment.

Decentralized governance mechanisms

Decentralized governance models that reduce reliance on central authorities are being explored as ways to enhance community autonomy and climate resilience. [African cities](#)⁸⁸ are increasingly taking leadership roles, learning from each other about building climate resilience through peer-to-peer networks rather than waiting for top-down direction. This shift toward local empowerment is supported by new [learning systems](#)⁸⁹ that help communities share knowledge and implement solutions tailored to their specific contexts. Such approaches aim to democratize power and embed climate priorities at the grassroots level that help communities share knowledge and implement solutions tailored to their specific contexts. Such approaches aim to democratize power and embed climate priorities at the grassroots level.

Decentralized governance models have the potential to significantly improve public service delivery by bringing decision-making closer to local citizens, including children and youth. This approach not only empowers young people to shape their future and education but also contributes to building social cohesion within communities.

Regional environmental rights agreements

Regional agreements are emerging as powerful tools for advancing environmental rights. Agreements like the [Escazú Agreement](#)⁹⁰ in Latin America and the Caribbean and the [Aarhus Convention](#)⁹¹ in Europe provide guarantees to access to environmental information, public participation in environmental decision-making processes, and access to justice in environmental matters which are particular to each region. Escazu also includes specific provisions to protect environmental defenders, addressing a critical need in a region where environmental activists face significant risks.

Regional environmental rights agreements have the potential to create a more collaborative approach to environmental protection. These agreements could lead to shared cost burdens for environmental protection and the creation of biodiverse corridors across boundaries, promoting both ecological health

and peace. For young people, this could mean growing up in a world with stronger environmental democracy and a safer space for defending the environment.

Youth inclusion in climate governance

The inclusion of youth in climate governance is gaining momentum globally, recognizing the crucial role young people play in shaping climate policies and actions. This trend is exemplified by initiatives like the UNFCCC's Action for Climate Empowerment (ACE) [Youth Exchange](#)⁹², which aims to foster training in climate governance. Many countries are also integrating youth negotiators, aided by capacity building programs such as the [Climate Youth Negotiator Program](#)⁹³. Among improved representation, this enables policymaking to consider the long-term interests of future generations and reinforce strong climate leadership.

Youth inclusion in climate governance can strengthen environmental policies while fostering intergenerational justice and innovative solutions. Their participation leads to more informed, futures/oriented and inclusive policy-making processes, promoting youth-led accountability and mutual understanding across generations. Beyond policy outcomes, meaningful youth engagement can reduce eco-anxiety by empowering young people to actively shape their future, while ensuring that educational approaches align with youth perspectives and needs.

Elevating children's rights - General Comment 26

Climate justice seeks to address the disproportionate impacts of climate change on vulnerable populations, including children, indigenous communities, and marginalized groups. [General Comment 26](#)⁹⁴ (GC26) plays a crucial role in advancing climate justice by explicitly recognizing children's right to a clean, healthy, and sustainable environment.

GC26 specifies that States are responsible not only for protecting children's rights from immediate harm but also for foreseeable violations of their rights in the future due to States' acts — or failure to act — today. It underlines that States can be held accountable not only for environmental harm occurring within their borders but also for the harmful impacts of environmental damage and climate change beyond their borders. States must also put measures in place including organizing the phase-out of coal, oil and natural gas and shifting to renewable energy sources, improving air quality and ensuring access to clean water, transforming industrial agriculture and fisheries to produce healthy and sustainable food, and protecting biodiversity.

Catarina, 18: Youth- and Children-Responsive Governance

"Children should not have to be the ones pushing for governmental change, because governments should understand their responsibilities and effectively put them into practice. Yet, because governments fail to do so, it is necessary that governance becomes equitable and accessible, as well as youth inclusive, because my generation will not have the same power to create change through policy in the future as governors have today and therefore should be included when it comes to speaking of our own future."

Conclusion

Through our horizon scanning exercise, we have identified over 150 signals of 26 emerging breakthroughs across five interconnected areas that could reshape climate action. From advances in eco-literacy and equitable energy transitions to innovations in climate finance, loss and damage mechanisms, and community-centric governance, these developments signal both promise and challenge for our future.

Several critical themes emerge from our analysis:

- The urgent need to democratize climate solutions, ensuring they reach and benefit those most impacted by climate change, particularly in developing nations and frontline communities.
- The importance of addressing both economic and non-economic dimensions of climate action, from financing transitions to preserving cultural heritage
- The growing recognition that effective climate action must be inclusive, participatory, and rights based.
- The essential role of education and capacity building to enable lasting change.

However, identifying these signals is only the first step. Their potential to create positive change depends entirely on how they are developed and implemented. Will new financial mechanisms truly serve vulnerable communities? Can we ensure equitable energy transitions? Will governance innovations give a real voice to those most affected?

As young people who will live with the consequences of today's decisions, we bring both hope and skepticism to these emerging solutions. Our analysis suggests that while promising breakthroughs are emerging, they must be approached thoughtfully, with careful attention to equity, justice, and long-term impacts.

The next few years are pivotal in determining the trajectory of the climate crisis. COP30 represents a crucial moment as countries submit their updated NDCs for 2035 and must become a [COP fit for children](#)⁹⁵ that prioritizes intergenerational justice and children's rights. COP30 has the potential - and obligation – to dramatically increase climate ambition to align with the IPCC's latest scientific assessment and the 1.5°C temperature goal that will help secure children's future.

Supporting our leadership and innovation will be crucial in ensuring we can meet this challenge. By promoting inclusivity and integrating our ideas into global strategies and policies, we can co-create a future that is sustainable, resilient, and just.

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Acknowledgements

This report was produced by UNICEF Innocenti – Global Office of Research and Foresight, under the guidance of BoViktor Nylund and Shai Naides. The report was written by Ricardo Pineda Guzman, Shai Naides, and Jill Van den Brule, guided by research and inputs from the 12 UNICEF Leading Minds Fellows on Climate. A special acknowledgment is made to Farzana Faruk Jhumu, Ema Meçaj, and Hailey Campbell for their editorial support. We thank Adam Sharpe, Amy Wickham, Cristina Colon, Gernot Laganda, and Yoonie Choi for their substantial contributions.

The 2024 Leading Minds Conference on Climate Action was made possible thanks to the flexible contributions of the Italian National Committee for UNICEF.

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Published by

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50121, Florence, Italy

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Suggested citation

UNICEF Innocenti – Global Office of Research and Foresight, *Emerging Breakthroughs on Climate Change*, UNICEF Innocenti, Florence, May 2025.

for every child, answers