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REWIRING EDUCATION FOR PEOPLE AND PLANET

THE CLIMATE EDUCATION NEXUS

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FOREWORD

Human history is rife with examples of challenges that have threatened the future of our planet and shaken the core of our existence. We recognize these examples as stories of triumph, of human potential prevailing over forces of destruction, and of remarkable breakthroughs in the face of adversity.

Today, climate change is the defining crisis of our time and will affect current and future generations unless we pledge to alter our dangerous trajectory through commitment to transformative action. What we need today more than ever are bold, innovative, radical decisions that will translate into disruptive action, game-changing solutions, and bold dialogue that can drive unwavering commitments towards a prosperous and sustainable future for all.

As varied as the Sustainable Development Goals (SDGs) are, we believe that education lies at the heart of addressing each one of them. There cannot be tangible accelerated progress on any of the global challenges, from poverty to health to climate without a complete rewiring of education systems globally.

The recognition of the central role of education transformation, efforts in other sectors will fall short of achieving their full potential and miss crucial opportunities to amplify impact for people and planet. It is this belief that drove effort to unite the global education sector in a call to bring education to the heart of the climate agenda, which culminated in the historic inclusion of education as a central theme at COP28 UAE.

Taking place on COP28's Youth, Children, Education and Skills Day, the RewirEd Summit positioned education transformation at the heart of sustainable development through an outcome-centric and action-oriented approach brought the education and climate sectors together under one roof to align strategies and plans, commit to common goals, and implement and scale win-win solutions that exist at the climate-education nexus.

The outcomes report at hand is the result of two years of consultations with stakeholders across education and climate, a synthesis of existing knowledge on the climate-education nexus, and the collection of insights from the bold, rich and engaging dialogue at RewirEd Summit.

At the heart of the recommendations made lies the assertion that education transformation for climate action cannot be achieved if we do not put the "future human" front and center. The report is a call to action to all stakeholders from policymakers to practitioners, communities and local ones, experts and students, and children, the elderly and youth to sow the seeds of change wherever they may be to leverage the climate-education nexus to the fullest.

Putting this into practice, the report offers five win-win solutions that emphasize holistic development, ensuring that every stage of a person's educational journey equips them with the knowledge, skills, values, and experiences needed to contribute to and thrive in a sustainable world.

The achievements at COP28 UAE are historic. However, they remain the first step in the journey for education to claim its rightful position in the climate action agenda. This report offers a roadmap that will require stakeholders to move from rhetoric to action with a sense of urgency. The time to secure a thriving planet for them is upon us. The time to act is now.

DR. TARIQ AL GURG
CEO AND VICE-CHAIRMAN
DUBAI CARES

CHAPTER 1

THE CLIMATE CRISIS AND THE URGENCY OF ACTION

PEOPLE AT THE HEART OF THE PLANET

THE CLIMATE CRISIS AND THE URGENCY OF ACTION: PEOPLE AT THE HEART OF THE PLANET

This chapter explores the intricate link between global climate action and education, noting key barriers and the urgent need for a shift to renewable energy and sustainable practices. It underscores the critical role of education in this transformation, advocating for holistic, cross-sectoral approaches to bridge the gap between climate action and education transformation.

Since the early 1990s, a collaborative process under the United Nations Framework Convention on Climate Change (UNFCCC) has united governments worldwide in addressing climate change through strengthening cooperation in areas such as policy, finance, and technology. This global effort has been marked by a series of significant milestones, beginning with the adoption of the Kyoto Protocol in 1997, which set emission limits on greenhouse gases (GHG) for developed countries until 2020. Almost two decades later, after extensive negotiations, the Paris Agreement took a further step forward with a universal commitment to limit global warming to 1.5°C, enhance resilience to climate change impacts, and align financial flows with these objectives.

The Conference of Parties (COP) typically results in political signals to guide action, updates on progress or its absence, and regulations for the implementation of specific mandates. Notably, COP28 UAE concluded with the first comprehensive review of implementation, known as the Global Stocktake (GST), which is the source of many insights and messages presented in this chapter. Key outcomes included an agreement to transition away from fossil fuels; the operationalization and financing of an international fund to aid impoverished nations in coping with climate-induced disasters; and the establishment of the global goal on adaptation, offering direction for all stakeholders on actionable measures and targeted sectors.

By the end of 2023, most governments had submitted two rounds of Nationally Determined Contributions (NDCs), with 70 countries advancing further by outlining their long-term climate strategies, and many developing countries submitting National Adaptation Plans (NAPs). In parallel, a significant number of private sector companies across various industries were engaged in developing and implementing "net zero targets". The data derived from these efforts is used for projecting future GHG emissions and assessing the feasibility of achieving the Paris Agreement's goals.

Fundamentally, the significance of the Paris Agreement lies in the profound paradigm shift it requires within the global economy to prevent temperatures from exceeding 1.5°C. This goal demands an immediate peak in global GHG emissions, followed by a rapid reduction to achieve net-zero emissions by 2050. Such objectives necessitate a comprehensive reconfiguration of production and consumption patterns. A critical element of this transition is the phasing out of fossil fuels and the integration of renewable energy sources across various sectors.

The electrification of end uses, particularly in the transportation sector through the adoption of electromobility, is also essential. Equally important are the shifts in the production of food, materials, and goods towards sustainable technologies and practices, the halting of deforestation, and a systemic shift in our consumption patterns and resource utilization.

Another critical component of the transformation involves implementing measures to ensure that global infrastructure, energy, food production, water facilities, and other systems are resilient to the increasing frequency of climate hazards. This is imperative not only because climate change is a present reality but also because some future changes are already unavoidable, necessitating a systemic shift in our consumption patterns and resource utilization to adapt to and mitigate these effects. Addressing climate change is an alternative path of development, which hinges on a large-scale economic transformation that will reimagine present ways of working.

Despite dynamic efforts and the clear path laid out by international agreements, the current trajectory falls short of limiting global warming to 1.5°C. In fact, current human activities led to a 1.1°C increase in global average temperatures.[1] The policies and measures outlined in the latest NDCs imply that about 89% of the CO2 emissions that will warm the planet above 1.5°C will be emitted in the next seven years.

A recent study revealed that, of 42 indicators evaluating the global transformation in key sectors, only one is on track to meet the Paris Agreement Goals.[2] Adaptation efforts, although progressing, remain fragmented and unevenly distributed.

A focus on the short-term measures has reduced the opportunity for transformational longer-term adaptation. Consequently, adaptation gaps are widening, and the effects of this will be felt unequally among least developed nations and vulnerable populations, including women and girls, youth, and refugees and displaced persons.

As these gaps continue to grow, the possibility of trespassing the hard and soft limits of some ecosystems and regions are opening.

This situation is exacerbated by the financial shortfall in climate finance with investments required to shift current energy systems necessitating an increase by 590% to about 4.3tn by 2030.[3] Adaptation needs of developing countries are currently 10-18 times larger than international public finance flows, ranging between USD 215-387 billion per year till 2030.[4] Yet, the ten most vulnerable countries received less than 2% of total climate finance in the period 2000-2019.[5] Finally, developed countries are three years overdue on the commitment to mobilize USD 100 billion annually, while only USD 21 to USD 24.5 billion of this could be considered real support.[6]

Thus, despite high ambitions, progress towards climate goals is alarmingly slow, setting the planet on a course for significant ecological upheaval with far reaching and unevenly distributed consequences.

The lack of progress is partly due to the formidable challenge posed by economic transformation, which is entangled in a complex interplay of socio-economic, financial, and political factors at both international and national levels. The lack of action at scale can be attributed to three interrelated factors:

01

POLITICAL POLARIZATION

Political polarization hampers climate change action globally and within countries, limiting leaders' ability to adopt ambitious environmental goals. Internationally, disagreements stem from conflicting values and interests between developed and developing nations. Developed countries express concerns regarding their competitiveness and the perceived lack of ambition from emerging economies, while developing countries cite fairness and equity,[7] and their right to development, given their low historical emissions. This deadlock, marked by disputes over responsibilities and costs, stalls progress. Nationally, the political landscape complicates matters further by its own political economy dynamics,[8] as vested interests[9] from pollution-heavy industries oppose stringent climate policies. This opposition is especially pronounced in some developed countries,[10] where there is significant pushback against climate measures due to economic concerns, job security in traditional sectors, and the cost of transitioning to cleaner alternatives.

02

ABSENT OR INADEQUATE CLIMATE POLICIES

Weak or non-existent climate policies and related frameworks forego the opportunity to support and send strong signals to economic actors towards environmentally responsible action. Several factors contribute to this lack of robust climate policy, including low priority given by some governments to climate change[11] as well as prevailing uncertainties about their effectiveness and societal cost implications of these policies. At the same time, policies such as carbon pricing or mandatory standards of energy-efficient equipment are perceived as expensive and become unpopular. Political leaders may well embrace the climate discourse but are cautious to champion policies which effects are not well understood or those that may adversely affect different population segments. As a result, many current policies are short-term and fragmented,[12] and in the case of subsidies, send the wrong signals as they promote the inefficient use of fuels and water.[13]

03

LACK OF FINANCIAL, INSTITUTIONAL, TECHNICAL, & WORKFORCE CAPACITIES

Financial constraints, governance challenges, and limited technical capacity across the developing world limit the achievement of climate and development goals.[14] Governments frequently cite difficulties in planning and regulating climate action, raising awareness among private and public actors, mobilizing funding, developing financial strategies, and undertaking technological research and adoption. The financial dimension is particularly strained by restricted budgets, escalating debt, and high capital costs,[15] which hinder private investments. The absence of strong institutions, adequate funding, and skilled professionals - from policymakers to business executives and researchers - severely restricts effective climate action and economic development.

This Report posits that progress for humanity as expressed in the Sustainable Development Goals (SDGs), will not translate to tangible outcomes for people and the planet, unless and when actors recognize the central importance of the human being, both as an end-goal and a powerful agent of change, with education as a fundamental pillar.

For climate goals to be achieved sustainably and permanently, the worldviews of individuals must see people and planet, not in competition to one another, but rather as a singular priority.

The ability of countries to achieve the kind of systems change necessary to achieve their climate goals will largely depend on the extent to which education is leveraged as a strategic solution to address climate challenges. In this context, the nexus between climate action and education becomes evident: education is not merely a victim of climate change but also an integral part of the solution. By investing in and transforming education systems, current and future generations can be equipped with the tools they need to effectively combat climate change, ensuring a more sustainable and resilient world for all.

1.1 EDUCATION TRANSFORMATION AND CLIMATE ACTION: OPPORTUNITIES AT THE NEXUS

The intersection of education and climate action has primarily focused on the adverse effects of climate change on education systems. Indeed, climate change, particularly at its extreme, damages educational resources, including human, physical infrastructure, materials and imposes psychological stress on children and youth, resulting in long-term negative impact on learning processes, prolonged loss of schooling, decreased academic performance, and potentially widening skills gaps in increasingly volatile job markets. [16] [17] [18]

For example, rising temperatures and shifting rainfall patterns threaten children's nutritional security and escalate the prevalence of vector-borne diseases leading to higher rates of absenteeism and impeding children's physical and cognitive development, which culminate in a decline in academic performance potentially by as much as 15% over the long term. [19] [20] [21] [22] [23]

Despite notable strides made towards local, regional, and global climate objectives, progress remains uneven, and the gap widens especially for the most vulnerable populations including women and girls.

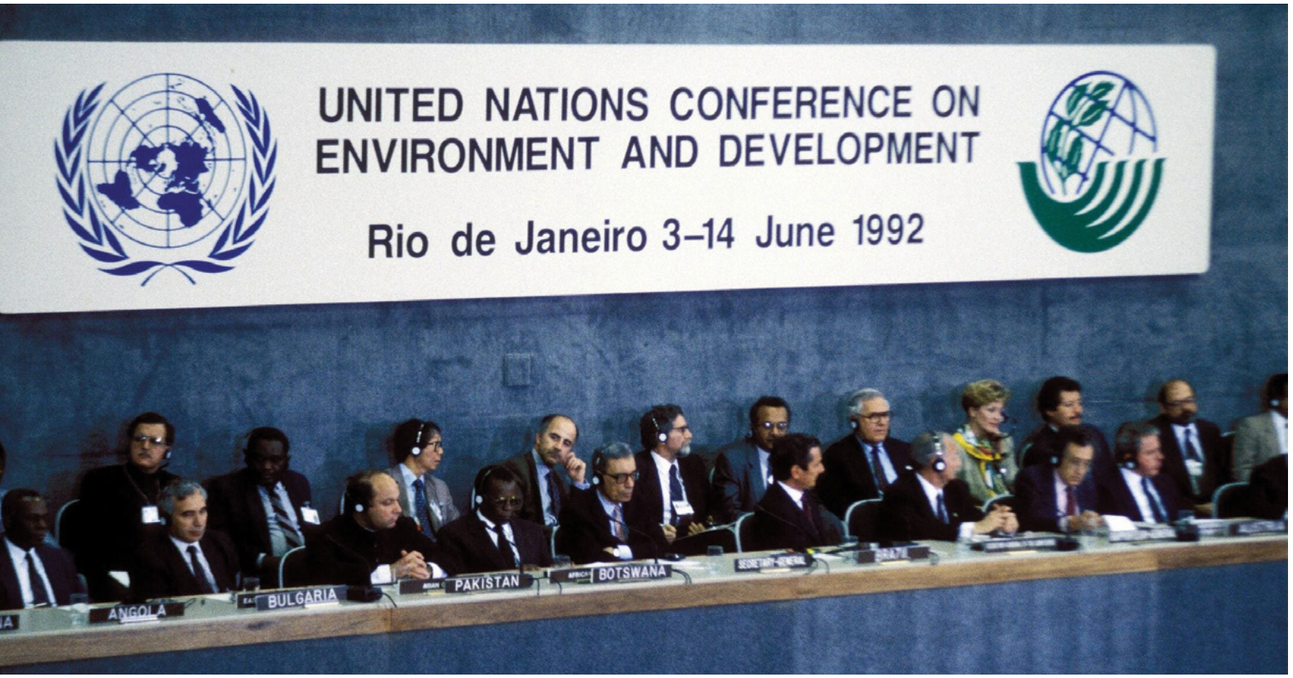
As countries strive to achieve the critical 1.5°C climate commitment, efforts predominantly focus on a macro-level, targeting specific actors and sectors. However, there lies a profound opportunity for transformative action from a systems-level perspective, emphasizing the pivotal role of individuals as agents of change, whose decisions, whether private or public, largely determine the socio-economic and political realities of their countries. These individual decisions, whether made in homes or corporations, are the product of a set of values, skills, knowledge, and experiences that shape the way in which people not only see the world, but also their place in it and their responsibility towards it.

In addition to the decisions individuals make as consumers, their values, skills, knowledge, and experiences – all largely dependent on the nature of the education they receive – will determine nations' abilities to advance the policy, financing, and innovation needed to resolve the tensions between economic prosperity and planetary health, both in terms of production and consumption. Traditional discussions on education interventions have predominantly revolved around key components such as curricula, teachers, assessments, and school structures.

However, for investments in education transformation to concretely pay off for every country's broader national ambitions – including climate goals – the education 'question' must move beyond these traditional confines. It must embrace more holistic approaches of analysis and action, that recognize education as a dynamic social, political, and economic construct comprised of a fabric of intersectoral relationships existing within a fluid ecosystem.

There is a growing recognition of the foundational nexus between climate mitigation and adaptation strategies and educational outcomes in addressing climate change. Despite their simultaneous emergence and the apparent potential for synergies (explored in detail in the following section), the integration of climate action and educational transformation has remained limited. For over three decades, the absence of cross-sectoral collaboration and intersectoral funding has resulted in missed opportunities for leverage. The delay in acknowledging the critical role of educational transformation in climate mitigation and adaptation strategies has meant that much of the potential for comprehensive social, economic, and environmental progress remains unrealized.

Recognizing the inherent potential in the synergy between climate action and education, this Report argues for a strategic approach to the nexus, not only spotlighting opportunities for innovative solutions and enhanced cooperation, but also highlighting the crucial role of interdisciplinary, holistic approaches in achieving comprehensive and sustainable outcomes for people and the planet.



1.2 THREE DECADES IN MOTION: EVOLUTION OF THE NEXUS

In the early 1990s, two critical narratives began to unfold, signaling the beginning of a discourse that continues to shape the global agenda: climate action and education transformation. Two landmark international agreements significantly influenced the framing of these narratives: the World Declaration on Education for All and the accompanying Framework for Action to Meet Basic Learning Needs[24] for the education sector; and the foundational documents of the Intergovernmental Panel on Climate Change (IPCC) for the climate sector.

The World Declaration on Education for All and the Framework for Action to Meet Basic Learning Needs, established in Jomtien, Thailand became the pioneering documents in the education transformation discourse, with a global focus on expanding equitable access to lifelong learning and improving its quality, without specifically addressing sustainability and/or climate change perspectives.

At the 1992 Earth Summit in Rio de Janeiro, education was more prominently featured in climate discussions. Specifically, Agenda 21,[25] incorporated a comprehensive plan of action for sustainable development, and the importance of education in achieving environmental goals. Article 6 of the UNFCCC also clearly recognized the role of education, training, and public awareness in addressing climate change. This called on parties to develop and implement education and public awareness programs; train scientific, technical, and managerial personnel; and ensure public access to information.[26]

Within the education sector, the Dakar Framework for Action, adopted in April 2000, significantly advanced the global education agenda by reaffirming the commitment to achieving Education for All (EFA) through six specific goals aimed at expanding access to quality education at all levels, with a strong focus on equity and inclusiveness. It emphasized mobilizing resources, strengthening partnerships, and establishing mechanisms for monitoring progress, but did not explicitly mention climate change or sustainability education as focal areas. Following this in 2002, the UN General Assembly declared 2005-2014 the UN Decade of Education for Sustainable Development (DESD), with the aim of integrating the principles, values, and practices of sustainable development into all aspects of education and learning.

Ten years later, at the 2012 United Nations Climate Change Conference (COP18) in Doha, the Action for Climate Empowerment (ACE) was introduced. ACE, mandated under Article 6 of the Convention, requires signatory countries to collaborate and enhance education, training, public awareness, participation, and access to information. The direct effort via ACE is narrow in its mandate, focusing on the political processes through government focal points that may not be part of the education community. ACE's current involvement with education stakeholders is primarily through United Nations Educational, Scientific and Cultural Organization (UNESCO), utilizing regional dialogues facilitated by government focal points. The UNFCCC process advances work by requesting governments to mainstream climate in curricula and establish skills, programs, and non-government organizations to set formal and non-formal education and training programs focused on climate change. While ACE provides political momentum for recognizing the role of education, it does not engage directly in conceptualizing or delivering projects aimed at the climate-education nexus.

The introduction of ACE was followed by the Lima Declaration adopted at COP20 in 2014 to integrate climate change education into national policies and strategies reaffirming the commitment of the international community to prioritize education and awareness-raising as key tools in combating climate change.

The Paris Agreement in 2015 was a significant moment for the education narrative within climate action discourse. Article 12 emphasized the need for all parties to cooperate in enhancing climate change education. Concurrent with the launch of the Paris Agreement, the 2016 Incheon Declaration for Education 2030 articulated a renewed vision for inclusive, equitable, and quality education calling for collective commitment at the global and national levels to education transformation with a comprehensive framework aligned with the objectives of SDG 4, which aims to "ensure inclusive and equitable quality education and promote lifelong learning opportunities for all".[27]

In response to a global education crisis post COVID-19, the UN Secretary-General convened the Transforming Education Summit (TES), during the UN General Assembly in 2022. In addition to focusing on acute issues of equity and inclusion, it also outlined the impact of the climate crisis on education and the need to place education at the top of the global political agenda, as well as proposed integrating climate education into curricula globally, and detailing commitments and a roadmap for incorporating climate awareness and action into education systems worldwide with the aim to equip young people with the knowledge and skills to engage in climate action.

The Secretary-General's Vision Statement[28] on Transforming Education urged the countries to consider how curricula and pedagogy could empower learners with the awareness, values, attitudes, and skills necessary to drive the required action including in relation to climate change.

Though there has been recognition and examples of policy initiatives emphasizing the interdependence of the climate and education sectors, this has not significantly translated into consistent high-level prioritization or measurable actions at national and international levels.

NDCs submitted ahead of COP26 found that few meaningfully positioned education as a tool to combat climate change, and only 59% of NDCs include commitments in the education sector.[29] Estimates suggest that only 0.03% of climate finance is directed towards education, while only one out of 591 projects across four key multilateral climate funds had education as its principal objective between 2006 and 2023.[30]

These various developments, each significant within their own sphere, hinted at the potential for a symbiotic relationship that could foster global change with these commitments signaling the growing recognition of the nexus in both sectors and the importance of its inclusion in policy and action to achieve both education and climate goals.

This evolution from recognizing to actively promoting education and empowerment as indispensable tools for climate resilience and sustainability highlights the collective acknowledgment of the vital role of informed, educated, and engaged individuals and communities in the global effort to combat climate change.

1.3 FROM FRAMEWORKS TO ACTION: MOVING TOWARDS INTEGRATION

Over the past few years there has been a growing recognition that greater levels of cooperation and alignment between education and climate stakeholders are critical to achieving global sustainable goals and climate challenges.

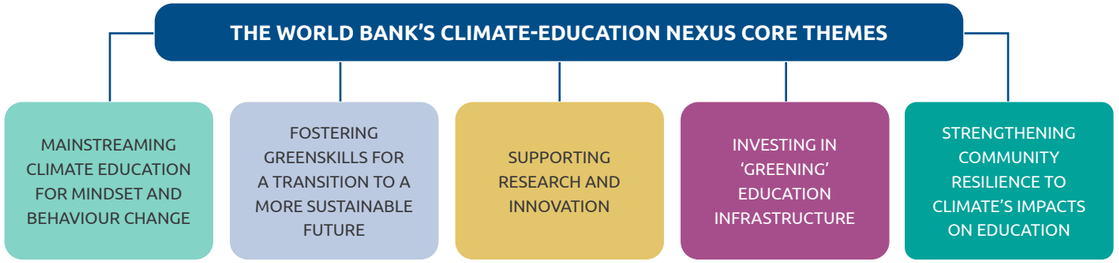
There is now more of an incentive for the respective sectors to break out of their funding and implementation silos and fully embrace practical actions at the national or global scales with various recently developed frameworks at the bilateral and multilateral levels setting out structures to bring these sectors closer together, identifying mutually beneficial entry points and opportunities to work across thematics to improve both efficacy and impact.

The World Bank has been a proponent of the human capital approach, defining human capital to consist of the knowledge, skills, and health that people invest in and accumulate throughout their lives, enabling them to realize their potential as productive members of society. The World Bank's role as a thought leader and largest financier of climate and education programs is crucial to how education and climate sectors work together.

In 2023 the Bank delivered USD 8.6 billion in climate finance; a 22% increase from 2022.[31] While its total spend on education was USD 5 billion, it has made commitments to devote 45% of its annual financing to climate-related projects for the fiscal year that runs from July 1, 2024, to June 30, 2025.

The Bank's explicit strategy on education and climate is focused on "mainstreaming climate education and investing in green skills, research and innovation, and green infrastructure to spur climate action and foster better preparedness and resilience to climate shocks".[32]

The World Bank's approach to the climate-education nexus focuses on five core themes:[33]



Using such an approach stresses the symbiotic and interconnected relationships between public health, education, and climate. How well society rises to the climate challenge is intrinsically linked to the level of healthy, educated, and flexible problem solvers it has. Hence, investing in health and education will build societies' resilience to climate shocks, develop more effective mitigation strategies, and allow a more effective transition to more green economies.

> *Investing in human capital creates healthy and well-educated populations – education being the greatest predictor of climate-friendly behavior. Strong human capital endowments are often passed across generations and reduce inequality. They provide benefits that empower more people – particularly women – to fully contribute to climate solutions.*
>
> **Investing in Human Capital to Accelerate the Green Transition**
> World Bank 2023

The human-centered and human-capital approaches are a move to collaborative partnerships in education. They involve recognizing, incorporating, and nurturing multi-dimensional and multi-directional engagement across varied sectors (including climate, health, agriculture, and the private sector), at various decision-making levels (global, national, local), and with different stakeholders (communities, civil society, private sector). Governments are urged to consider education as a collective responsibility, involving multiple ministries.

The private sector is encouraged to actively shape education, focusing on economic growth and lifelong learning. Teachers are reimagined as dynamic facilitators and mentors, supported by responsive education leaders and a conducive environment.

At the World Government Summit in 2022, Dubai Cares launched the Framework for Global Education Transformation, which garnered interest from education stakeholders, including policymakers, was used to inform their educational strategy development, and was included in the Common Agenda for Education and Climate Change in section 1.2 of the commitment on adaptation.

By positioning education as a key investment in sustainable development and a crucial component in combating climate challenges, the Framework aligns educational objectives with broader growth and human development goals, steering clear of isolated efforts in favor of genuine and systemic transformation. It bridges the gap between classroom learning and real-world applications, underscoring the need for an adaptable, scalable, and flexible educational ecosystem, that withstands external shocks and actively creates solutions to mitigate them.

The Framework for Global Education Transformation advocates for a shift towards a holistic, human-centered paradigm in education, emphasizing the need for ecosystem-based strategies which foster intersectoral linkages among a diverse range of stakeholders, including teachers and students, governments at multiple levels, private sector, prominent international organizations and NGOs, and academia. By focusing on the development of values, skills, knowledge, and experiences as four core pillars of a comprehensive learning ecosystem, the Framework underlines the significance of these components not only individually but also in their interconnectedness.

This approach is especially pertinent in addressing climate challenges, highlighting education's key role in fostering a holistic transformation capable of addressing multi-sectoral challenges, including climate change, by leveraging the strengths and capabilities of various stakeholders within the educational ecosystem.

In 2023, the Global Partnership for Education's (GPE) Climate-Smart Education[34] System proposed a seven-dimension framework to leverage potential entry points and address gaps within national education systems to strengthen the resilience and relevance of education to climate change and environmental degradation.

Post COP28 UAE, the Overseas Development Institute (ODI), independent global affairs think tank, launched the Climate-Education Research Framework (CERF)[35] that presents an innovative approach to comprehending the relationship between climate change and education. Grounded in systems-thinking, the framework provided by CERF aims to untangle the intricate interconnections between these two domains and it offers insights that guide the development of scalable policies and actions to enhance both climate and educational outcomes.

The Greening Education Partnership (GEP)[36] is an initiative of UNESCO, representing a strategic effort to leverage the educational sector's potential in combating the climate crisis that is also integral to its broader commitment to Education for Sustainable Development.[37]

By advocating for a whole-of-system approach, UNESCO aims to empower countries to effectively utilize education as a pivotal tool in their climate response strategies, developing standards and stakeholder capacity over four action areas of transformative education: greening curriculum, greening schools, greening communities and greening teacher training and education system capacities.

UNESCO's Declaration on Education and Climate endorsed by 45 countries across the globe and unveiled in Dubai, represents a landmark commitment. It acknowledged education as both a fundamental right and a potent tool in combating climate challenges, laying the groundwork for a sustainable future.

As a high-level political commitment, it signifies a recognition of the deep interconnections and mutual impacts between education and climate action, focusing on three pivotal areas. This commitment calls for resilient educational strategies that **adapt** to climate risks, ensuring institutions not only withstand environmental challenges but also emerge as leaders in climate resilience. It promotes **mitigation** through the development of climate-smart educational initiatives aimed at equipping learners with the skills for active climate change mitigation, aspiring for the education sector to achieve net-zero emissions.

The declaration also advocates for significant **investment** in education through global finance, emphasizing the need for innovative financing and partnerships to support education's role in climate adaptation and mitigation.

1.4 EDUCATION AT COP28 UAE: A CRITICAL WIN

A historic milestone was set at COP28 UAE, marking the first-time education secured a dedicated Youth, Children, Education, and Skills Day, which took place on 8th of December 2023. This significant development not only recognizes the indispensability of education within the climate space but also enhances coordination between climate and education sectors, setting a solid foundation for actionable commitments.

Within this agenda, Dubai Cares' RewirEd Summit marked the only flagship education event at COP28 UAE, which convened a diverse selection of stakeholders, including heads of state, ministers, UN agencies, Non-Governmental Organizations (NGOs), educators, youth, and the private sector with several significant initiatives being launched.

The Green Climate Fund (GCF) and GPE announced a groundbreaking collaboration, pledging a USD 70 million investment to fortify climate-resilient schools. In response to the escalating threat, the world's leading funds for climate and education united with Save the Children and partner governments to ensure the safety of millions of children in their learning environments.

The initiative titled Building the Climate Resilience of Children and Communities through the Education Sector (BRACE) represents a pioneering venture, marking the foremost significant investment of climate finance in education. This innovative financing mechanism will aid education systems in vulnerable nations by establishing climate-resilient and eco-friendly schools, integrating climate change education into curricula, and providing schools with early climate warnings.

Commencing with Cambodia, South Sudan, and Tonga, BRACE will enhance the resilience of their education systems through the retrofitting and construction of greener and more climate-adaptive schools, aligning with the International School Safety Framework.

The outcomes and insights garnered from these initial investments will help BRACE expand its investment scope to encompass school infrastructure projects.

The GCF, GPE, and other contributors, including the private sector, will have the opportunity to further support greener and more climate-resilient education systems by additional financing.

The United Nations International Children's Emergency Fund (UNICEF), Generation Unlimited (GenU), and their partners unveiled The Green Rising initiative, an inclusive and boundary-breaking endeavor that aims to empower the most marginalized youth worldwide with education, skills, and opportunities to become advocates for the planet and spearhead the green transition.

Bringing together civil society organizations, foundations, tech platforms, governments, and private sector partners, The Green Rising initiative seeks to amplify youth-led climate action with a goal of mobilizing 10 million young individuals globally by 2025, empowering them at the grassroots level to undertake tangible green initiatives. Through activities such as volunteering for environmental causes, advocating for increased climate action, or pursuing careers in the green economy, these young people contribute to mitigating the devastating effects of climate change and safeguarding their families and communities.

The essence of The Green Rising initiative lies in nurturing young individuals to become champions for climate resilience and sustainability. Dubai Cares, in partnership with the Aga Khan Foundation (AKF), and with the support of the Global Center on Adaptation, announced the launch of the Global Education Solutions Accelerator (GESA), a catalytic initiative supporting countries to transform their education systems through leveraging an ecosystem approach built on cross-sectoral collaboration.

GESA emphasizes empowering countries to drive their education transformation and offering essential support for rapid identification of roadblocks towards long-term goals and facilitating access to technical and financial assistance needed to implement swift, innovative solutions for sustainable systems change.

A key strategy is to break down in country and global silos through a cross-sectoral collaboration involving climate, gender, nutrition, and private sectors, alongside robust collaboration among education, climate, agriculture, finance, Information and Communication Technology (ICT), and other vital sectors is needed. GESA will address limited funding and support for actors to collaborate across their institutions and will support countries in identifying and bringing onboard new players (whether ministers, local entities, or individuals).

Also, the Research Consortium of School Health and Nutrition, an initiative of the School Meals Coalition unveiled a groundbreaking white paper titled "School Meals and Food Systems: Rethinking the consequences for climate, environment, biodiversity, and food sovereignty". This paper clearly demonstrates how developmental challenges are fundamentally intertwined, and how addressing them through a holistic lens can effectively achieve sustainable outcomes.

In this case, school meals have proven to have positive effects on school attendance and learning, while at the same time generating demand for local agricultural foodstuffs produced in more sustainable and climate responsible ways.

This production results in better agricultural quality, more efficient food supply chains, and improved food security in general. This intervention crosscuts agriculture, health, education, the private sector, and society as a whole, giving positive economic and social multipliers. The School Meals Coalition is comprised of 116 partner organizations and 98 nations of which 35 have outlined their national commitments to support the overarching goal of ensuring universal access to nutritious school meals by 2030.

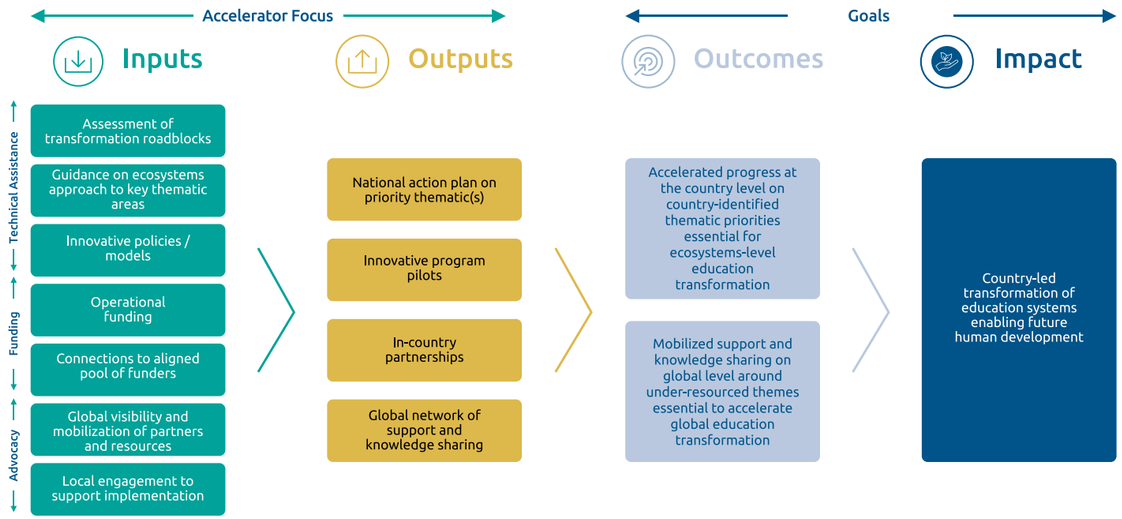
Taken together, such broad national recognition and commitment towards a common agenda in education and climate is a promising and welcome development that clearly recognizes the positive and multiple synergies that exist, both highlighting the impact and contribution that education has on climate change.

This is an essential step to improve and further catalyze sectoral collaboration and communication, and to promote a consistent approach. It is imperative that these initiatives and commitments will be evidenced by inclusion into respective country NDCs. However, while international agreements and commitments allow the education and climate sectors to align and identify intersectoral synergies and gaps across design, implementation, research, and evaluation, a transformative approach should recognize that overcoming the well-known education challenges is necessary but not sufficient to meet the societal and environmental challenges derived from existing production and consumption models.

The technical approach to the nexus should be complemented by a more epistemological one that requires a broad stakeholder consensus on transformational paradigm change needed to address the threats of climate change and lack of quality education for all. Specifically, how do stakeholders define this transformation in socio-economic and political terms, and what does real transformation look like over time and space?

Chapters 2 and 3 of this Report take a deep dive into these questions showcasing examples of cross sectoral win-wins and a curated selection of best practices and case studies from around the world, illustrating innovative strategies and successful implementations of the climate-education nexus in various contexts. These discussions aim to provide a comprehensive overview of the current landscape of the nexus, offering insights and recommendations for stakeholders at all levels to navigate its complexities and capitalize on the opportunities for working within it.

GESA'S THEORY OF CHANGE



CHAPTER 2

FROM RHETORIC TO ACTION

WIN-WIN SOLUTIONS AT THE NEXUS

CHAPTER 2

FROM RHETORIC TO ACTION

WIN-WIN SOLUTIONS AT THE NEXUS

FROM RHETORIC TO ACTION: WIN-WIN SOLUTIONS AT THE NEXUS

This chapter outlines actionable strategies for the climate education nexus, employing holistic approaches and showcasing global best practices. It emphasizes leveraging Early Childhood Development for climate resilience, integrating school health, nutrition, and food systems, and empowering teachers and youth for the future. Strategic private sector engagement is highlighted as essential for achieving a green society.

Tackling climate change will not just be the defining challenge for the present generation, but for a multitude of generations to come. Building on the insights of the landmark 2022 "Rewiring Education for People and Planet" Report, this edition adopts a similar methodology of identifying priority actions that can simultaneously enhance education outcomes while yielding mutually beneficial impacts for climate change efforts and agenda. The win-wins identified in this chapter, though diverse, share some key foundational tactical threads cutting across them as follows:

01

SUCCESSFULLY ADAPTING TO CLIMATE CHANGE IS CONTINGENT ON BUILDING HUMAN CAPITAL.

The dynamic changes essential to face climate change's challenges require healthy, educated, and flexible problem solvers. Investing in health and education will build societies' resilience to climate shocks, develop more effective mitigation strategies, and allow a more effective transition to greener economies. Adaptation to climate change can only take place if there is the breadth and depth of human capital available.

02

ADOPTING A CHILD-CENTERED APPROACH TO THE CLIMATE AND EDUCATION NEXUS GIVES FOCUS, CLARITY, AND PLACES THOSE MOST IN NEED AND AFFECTED AS THE CENTER OF IMPACT.

The official inclusion of an education day at COP is an important first step to embracing a more integrated and social justice approach to tackling climate change. Combined with the Dubai Declaration on Early Childhood Development,[38] it provides a building block a frame from which to expand. There is a clear opportunity to refine these advances by asserting that the nexus of climate and education should not only be integral to future development initiatives but also explicitly adopt a child-centered approach. This recognizes the vital role children play in mitigation and adaptation to climate challenges, as well as their important and transformative voice around agency and creativity.

03

IMPROVING CHILDREN'S PROFICIENCIES BY PROMOTING VALUES, ATTITUDES, SKILLS, AND EXPERIENCE GIVES RISE TO IMPROVED LEVELS OF BOTH ECO-LITERACY AND SUSTAINABILITY.

These competencies promote improved understanding of human relationships and societies' interactions with environmental systems. An increased level of understanding of how these systems work and interact leads to more effective action.

04

ADOPTING A MORE HOLISTIC AND INTEGRATED APPROACH RECOGNIZES THE IMPORTANCE OF WORKING ACROSS SECTORS IN MORE HUMANISTIC WAYS.

This may apply both through the prisms of economic growth or from a broader social equity perspective. However, it is crucial to explore multisectoral approaches that seek to work at the nexus, uncovering the symbiotic opportunities available.

05

WITH NEW APPROACHES COME NEW OPPORTUNITIES FOR RESEARCH, DEFINING AND ADOPTING APPROPRIATE METRICS AND MEASUREMENTS.

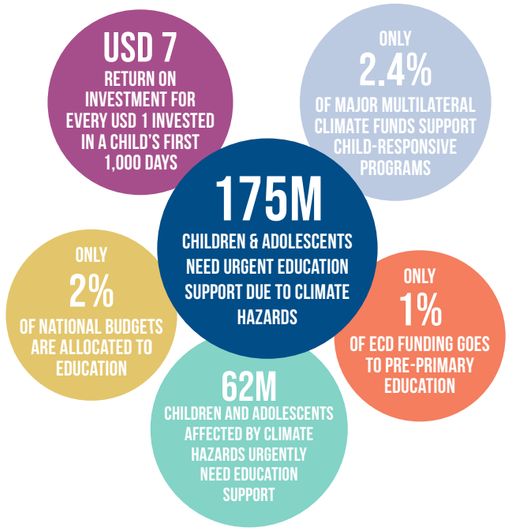
Adopting a holistic approach requires innovation and revised attitudes to risk. It is difficult to academically unravel and understand the exact attributional relationships between the components of education and climate. Adopting more sociologically and contextually based frameworks and evaluation techniques, such as human-centered design, can help frame approaches, improve data transparency, and provide more evidence for policymakers, planners, and stakeholders. The synthesis of this data and evidence allows for a more effective decision-making at the policy level by identifying contextual applications that positively impact constituents.

WIN – WIN SOLUTION 1

EARLY CHILDHOOD DEVELOPMENT AND CLIMATE
A CRITICAL NEXUS FOR FUTURE GENERATIONS

Climate change disproportionately affects young children, especially those in marginal and conflict affected areas, with 88% of the global burden of disease attributable to climate change occurring in children under 5 years old.[39] [40] Small children are highly susceptible to air pollution and heat [41] and over 175 million children annually bear the impacts of natural hazards alone.[42]

Climate-induced displacement not only disrupts children's learning, but also adversely affects mental health, with early exposure to climate-related stress having long-term negative consequences for future generations.[43] Education Cannot Wait (ECW) estimates that 62 million children and adolescents affected by climate hazards urgently need educational support at the time of this Report's publishing.[44]



Infographic: Early Childhood Development and Climate

Physiologically if compared to adults, young children require more food and water per unit of their body weight as their brains, lungs, and bodies develop rapidly. Hence young children are less able to survive climate extremes and dehydration; they are more susceptible to air pollution, toxic chemicals, temperature changes, and diseases such as dengue and diarrhea.

Early Childhood Development and Climate Change
UNICEF, 2021

However, in the 30 years since the adoption of the UN Framework Convention on Climate there has been a lack of political and investment focus on the early years in relation to climate. Only 2.4% of major multilateral climate funds supports child responsive programs[45] and overall, only 2% of national education budgets in low-income countries are devoted to ECD,[46] only 2% of ECD funding for crisis-affected countries goes to Water, Sanitation, and Hygiene (WASH) and only 1% to pre-primary education.[47]

a) INVESTING IN EARLY YEARS FOR A SUSTAINABLE TOMORROW

Early Childhood Development (ECD) is a holistic approach that sits at the nexus of the climate and education sectors and is well placed to capture and address the complexities of climate change that include multiple thematics and stakeholders, not solely in the climate sector, but across economic and social systems including poverty reduction, development, nutrition, and peace and security. Effective ECD programs share common traits: they offer direct learning experiences to both children and families, target younger and disadvantaged children, and maintain high quality and intensity over longer durations, while also being seamlessly integrated with family support, health, nutrition, or educational systems and services.[48] Echoing this perspective, Madalitso Kambauwa Wirima, Honorable Minister of Education of Malawi, emphasized at the 2023 RewirEd Summit the need for holistic strategies that include climate change education and resilience.

Specifically, Early Childhood Education, a component of ECD, is defined as "providing learning and educational activities with a holistic approach to support children's early cognitive, physical, social and emotional development and introduce young children to organized instruction outside of the family context to develop some of the skills needed for academic readiness and to prepare them for entry into primary education".

UIS. 2012.
International Standard Classification of Education (ISCED) 2011

Comprehensive universal ECD at the national level is a cost effective and impactful way to help achieve climate goals and is a powerful counterpoint to the inequities of climate change.

The positive multiplier effects of ECD on society have been evidenced for well over a decade. ECD is a highly cost-effective investment, where for every USD 1 invested in a child's first 1,000 days of life, there can be a future return of USD 7.[49]

Research also shows that simple psychosocial stimulation in very early childhood in disadvantaged settings has a significant positive effect on earning levels in adult life.[50] Quality ECD programs are highly effective offering significant, long-lasting benefits that are essential for the comprehensive growth and well-being of young learners.[51] [52] [53]

Indeed, with the appropriate educational approaches, young children can significantly contribute to driving the change needed for achieving sustainability goals.[54] ECD empowers children and improves school readiness by developing foundational and executive function skills, problem solving, decision making and critical thinking. It lays the foundation for basic literacy and numeracy and helps build much needed environmental literacy.

It is essential to form informed, environmentally conscious individuals who are better equipped to contribute to global efforts in mitigating climate change. By nurturing a sense of environmental and social responsibility, and sustainable habits from an early age, society can foster a generation that is actively engaged in building a more resilient and sustainable future.

Building foundational human capacity by investing in the early years reaps climate rewards in the short and long term. Giving children the best possible start in life through universal quality ECD programs is a vital element that builds the human capital of the individual and society. 80% of the human brain is formed by age three, and 90% by age five. Investment during these early years contributes to breaking cycles of poverty and inequality.

The case for investment is clear. ECD is an intersectoral approach that is a powerful, exemplary, and influential narrative that can be championed by both climate and education policy-makers.

Integrating ECD into global climate response is not merely an option; it is an urgent necessity and a valuable opportunity.

This integration acts as a bridge between our current actions and the vision of a sustainable, equitable future for upcoming generations. It ensures that today's children are raised in a world where their development, well-being, and capacity for environmental stewardship are prioritized, and their crucial role in combating climate change is fully recognized and nurtured.

A stronger human capital base can help communities adapt to a changing climate, and reciprocally, investments in low-carbon, climate-resilient development can help countries unlock further human capital gains.

Monsalve and Wata
World Bank Blogs, 2022

Investing in systems to develop and implement climate change policies and strategies, creating climate-resilient communities through education, and providing the necessary tools for climate change learning are imperative. However, without the resources to digitalize classrooms, provide school meals, and ensure effective learning environments, the ambitious strategies and plans to combat climate change remain unattainable.

Madalitso Kambauwa Wirima
Honorable Minister of Education of Malawi
RewirEd Summit 2023

CASE STUDIES:

GREEN PLAY LABS

BRAC

BRAC Play Labs provide an innovative approach to ECD in underprivileged communities. Established to foster cognitive, physical, and socio-emotional development, these play-based learning environments utilize low-cost, locally sourced materials. In the last few years, BRAC has added new features and adapted Play Labs in various contexts, including the Climate Resilient Green Play Labs in Bangladesh. This new initiative focuses on strengthening children's and communities' connection with and empathy for nature, while highlighting indigenous knowledge and practices around adapting to climate change.

AHLAN SIMSIM

IRC AND SESAME WORKSHOP

Ahlan Simsim, or "Welcome Sesame," is a mass media initiative designed by Sesame Workshop and the International Rescue Committee (IRC) to aid children affected by the Syrian conflict and its ensuing refugee crisis in the MENA region. Focused on emotional development, the program uses beloved Sesame characters across eight seasons—each comprising 26 episodes—dedicated to specific topics on emotional recognition and regulation.

Developed through extensive research and consultations in Iraq, Jordan, Lebanon, and Syria, the curriculum was implemented in Jordan Valley pre-primary classrooms over a 12-week period. A study by New York University's Global TIES for Children found that the program significantly helped children recognize and manage emotions using techniques like breathing strategies.

WIN – WIN SOLUTION 2

PLANET-FRIENDLY SCHOOL MEALS
MERGING SCHOOL HEALTH, NUTRITION,
AND FOOD SYSTEMS FOR SUSTAINABLE IMPACT

a) SCHOOL-BASED NUTRITION AND HEALTH INTERVENTIONS: A POWERFUL APPROACH

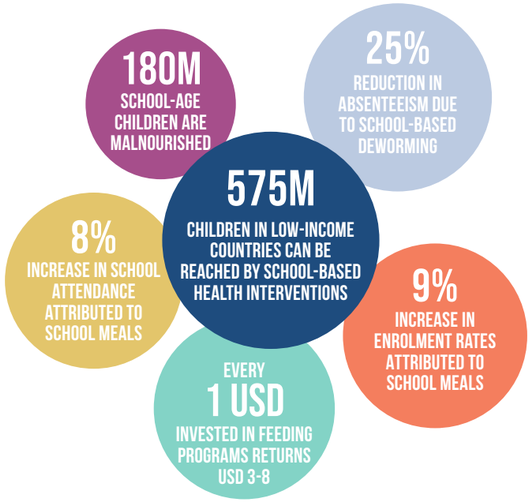
One-third of all human-induced greenhouse gas emissions stem from food systems. Throughout the food value chain, a third of all food is wasted, contributing to 8-10% of emissions during production.[55] Food production unsustainably uses scarce resources. Food production accounts for 70% of freshwater consumption,[56] and because of the conversion of natural ecosystems to crops or pasture, makes it the primary factor behind biodiversity loss.

Negative feedback loops from these environmental shifts compound the capacity to produce high-quality foods, further compromising global food security and nutrition. Countries in the Global South are disproportionately affected in that they also face intensified consequences of the climate crisis.

School-based health interventions have the potential to reach 575 million children in low-income countries and can achieve immediate education gains. School-based deworming, for example, can reduce absenteeism by 25%,[57] and school meals can increase attendance by 8%, and enrolment rates by 9%.[58] Additionally, an integrated package of interventions can maximize impact.

Children bear a disproportionate impact from both climate and nutrition crises. Around 180 million school-age children are malnourished, and 1 billion children face a high risk of experiencing food insecurity.[59] This jeopardizes the education, growth, and overall development of children and adolescents globally, while also heightening the threats of morbidity and mortality.

The synergy of health and education interventions are necessary for children to achieve their full potential. Healthy children who are fit for school are in the best position to take advantage of education opportunities, while education is also a key determinant of health outcomes.



Infographic: School Health & Nutrition and Food Systems

Positioning the school as the primary node for addressing climate challenges represents a practical strategy that encompasses both the tangible infrastructure of the school (its hardware) and its human and programmatic elements (software: students, teachers, and curriculum).

As a primary social infrastructure space where society and climate meet, schools have a huge potential to catalyze societal change that is key to overcoming climate challenges.

The power of adopting a school-based nutrition and health approach lies in leveraging existent scale (as a part of the national education system) and the schools' role as a critical environment for driving innovation and adaptation at the community level.

This setting not only provides access to a large number of children, offering a unique opportunity for widespread impact, but also serves as a distinctive space where the barriers of siloed policies and practices (often cited as major obstacles to innovation and positive social change) can be dismantled.

Strategically and tactically, schools are the ideal venues for different stakeholders and systems to converge more productively, support each other, and achieve effective and sustainable outcomes.

Integrated school health and nutrition programs address issues of child health at the school and community level. The school acts as the key node where hardware interventions such as clean water, deworming and nutritious feeding programs can be effectively implemented in a structured setting.

These interventions can also be complemented by student and community capacity building initiatives that improve practice, promote sustainable behavior change, and improve impact over time.

In low-and middle-income countries, about 300 million school children suffer from anemia, resulting in an average loss of six IQ points per child. The lack of water and sanitation significantly affects children's health and creates barriers to school attendance, particularly for girls. Currently, 600 million children lack access to drinking water services in their schools.

School Health and Nutrition: Ensuring a Better Future for All Children
UNICEF, 2020

b) UNIVERSAL SCHOOL MEALS: A PRACTICAL AND SCALABLE OPPORTUNITY TO BUILD HUMAN CAPITAL AND CREATE POSITIVE ENVIRONMENTAL CHANGE IN GLOBAL FOOD SYSTEMS

National school meal programs provide a unique multiple opportunity to benefit child health, improve education access and outcomes, while at the same time are a key component to transforming food systems. Globally over 418 million children a day benefit from a school meal. These programs are often a dominant part of the national food architecture and play a vital role both in the demand and supply side of a country's food systems.

Feeding policy and programs are managed by governments, and hence have both scale and reach. They are a popular policy that tend to have support across the political spectrum and are largely domestically financed. They are also highly cost effective and have positive economic multiplier effects with every USD 1 invested in food support (meals, take home rations or biscuits) resulting in a USD 3 to USD 8 economic return from improved human capital (health and education) among schoolchildren and increased productivity when they become working adults.[60]

Nationally based school feeding programs can drive and deliver systemic change. School health and nutrition driven by nutritious school feeding (and other school health interventions) creates a virtuous cycle of positive human capital development, helping children become agents of change. This builds through adulthood and empowers future generations through changing behavior and by promoting more sustainable and healthier food habits.

Sustainable food procurement (with appropriate accompanying policy and regulation) can stimulate the demand for sustainable agricultural practices, broadening the available food basket, and encouraging the growth of locally sustainable small-scale agriculture.

Policies that recognize the linkage between school feeding and agricultural production already exist,[61] and 42% of national school feeding programs have components around agricultural policy objectives.[62]

Specific activities are identified at the school feeding policy implementation level and at the food system procurement level. All of these have explicit benefits to children and the environment. For example, in the shorter term, the incorporation of nutritious and diverse whole-food menus can have a significant effect on the environment. Models show that menu changes and planning that promote more plant-based products can significantly reduce GHGs (26% for a flexitarian diet and 43% with a vegetarian diet).[63]

School meal planning and policy can promote the use of native foods that are locally produced, with shorter supply chains. Integrating sustainability considerations in food standards and preparation are other practical suggestions. Supporting the move from polluting and inefficient open wood-burning stoves is critical to improve environmental impacts. Fuel efficient wood burning stoves, or electric stoves powered by renewable sources, reduce deforestation and improve the health of caterers and cooks. Mitigating food waste by more efficient menus and procurement mechanisms has significant environmental effects. Halving food waste can reduce environmental impacts by 13%.[64]

By incorporating food system education and whole food approaches into the curriculum, children, teachers, and future generations are better informed about how the food system operates and can take advantage of opportunities to make it more sustainable. A longer-term approach centers on policy change to make food systems more sustainable. School feeding can act as a wider agricultural procurement entry point to promote a more holistic food policy including nutrition and environmental impact as core pillars.

Regulatory frameworks should align with sustainable school feeding policies, while supply side market support, preferential financial incentives and capacity building should be given to sustainable farming practices, especially at targeted, at startup, and at the small holder level. Support along the whole agricultural value chain should be realigned towards more sustainable inputs, harvesting, and distribution, with appropriate assistance to maintain food quality.

INNOVATIVE MODEL FOR SCHOOL, HEALTH AND NUTRITION

Dubai Cares, Grameen Crédit Agricole Foundation, and WFP are currently developing a Social Impact Bond in Senegal, which aims to transform Senegal's education system by fostering cross-sectoral collaboration and bolstering the local dairy and rice industries. This initiative aims to develop sustainable, home-grown school feeding models that connect local industry output directly to educational institutions, benefiting smallholder farmers, students, and surrounding communities. Implementation will involve capacity building for farmers, the establishment of safe food-handling infrastructure, the formation of farmer cooperatives, and the creation of community-run kitchens managed by women. Ultimately, the program will establish implementable models for Home-Grown School Feeding programs.

CASE STUDIES:

SUSTAINABLE SCHOOL FEEDING AT SCALE: KENYA

KENYA, FOOD FOR EDUCATION (F4E)
SCHOOL MEALS COALITION

Kenya, a member of the School Meals Coalition, and an early adopter of the white paper on School Meals and Food Systems at COP28 UAE, has committed to achieving universal school meal coverage by 2030. One key partner in this endeavor is Food for Education (F4E), which merges technological innovation with sustainable practices to tackle educational and nutritional challenges in Kenya. Starting in 2012 with a modest initiative to feed children from a small kitchen in Ruiru, F4E has grown into a large-scale operation that provides nutritious meals to 300,000 children daily across over 900 schools, with the goal to eventually serve meals to 3 million children daily across three African countries.

HOME-GROWN SCHOOL FEEDING (HGSF)

WORLD FOOD PROGRAMME (WFP)

HGSF initiatives demonstrate a pro-climate approach to addressing food insecurity and malnutrition in schools across multiple countries. By sourcing food locally, HGSF programs not only bolster the resilience of community-based food systems but also significantly reduce the carbon footprint associated with the transportation of food supplies. These programs emphasize utilizing sustainable agricultural practices by local farmers, which fosters biodiversity and helps mitigate climate change impacts. By involving local stakeholders and integrating sustainable practices, HGSF promotes economic development within the communities and ensures that school meals are both nutritious and sustainable. This approach aligns with global efforts to create climate-resilient food systems, enhancing both educational outcomes and environmental health.

WIN – WIN SOLUTION 3

TEACHING AS A GREEN PROFESSION:
A NEW PARADIGM

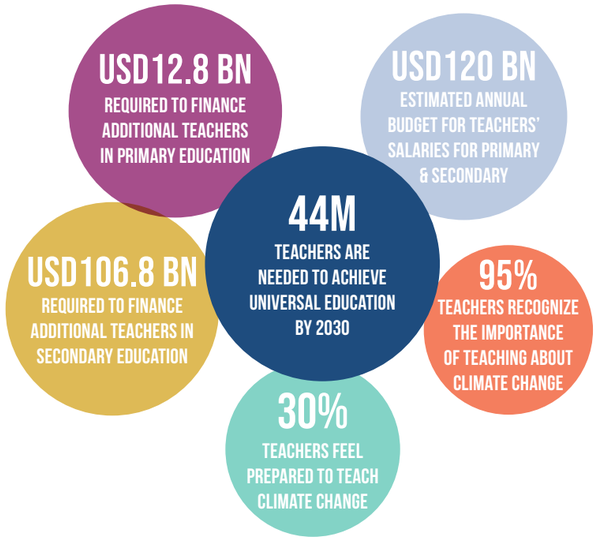
The teacher crisis is endemic. The Global Report on Teachers[65] indicates that 44 million additional teachers are needed to achieve universal primary and secondary education by 2030, while Sub-Saharan Africa alone needs 15 million more teachers. Higher-income countries face retention challenges with attrition rates among primary teachers almost doubling from 4.62 in 2015 to 9.06 in 2022.[66]

Financing these additional teachers globally will cost USD 12.8 billion for universal primary education and USD 106.8 billion for universal secondary education. In total, the annual additional financing needed to cover salaries at primary and secondary levels by 2030 is estimated at USD 120 billion.[67]

Increased levels of finance and number of teachers are necessary but not sufficient to improve quality education, expand the profession, and respond to climate change challenges. For example, in many countries teachers have not received effective training to teach students the instrumental and transformational skills needed for the demands of the 21st century economy, as well as the capacities to deal with the changing social and economic dynamics that result from rapid climate change.

Indeed, though 95% of surveyed primary and secondary teachers felt that teaching climate change is important, less than 30% expressed a readiness to teach it, while 70% of young people say that they do not feel ready for climate change based on what they have learned.[68]

UNESCO's International Commission for the Futures of Education has called for action to overcome these persistent present and future challenges, specifically calling for: 'Action to consolidate global solidarity and international cooperation in education, as well as strengthen the global research agenda to reinforce our capacities to anticipate future change'.[69]



Infographic: Teaching as a Green Profession

It argues that a new social contract is central for education and teachers. This is needed to not only improve the quality of and equitable access to present education, but for teachers to become a transformational force in the future world.[70]

The contract should be grounded in the core principles of human rights, cultural diversity, human dignity, and social justice, with education seen as a public good and a shared societal goal. Teachers are at the center of this proposed agreement which seeks to promote and empower teaching as a highly collaborative profession, focusing on emphasizing reflection, research, knowledge-creation, and innovation.

a) EDUCATION AND CLIMATE: PRIORITIZING AND FRAMING INTEGRATED SYSTEM APPROACHES FOR PRACTITIONERS

Enhancing the impact on both educational and climate change challenges requires collaboration across sectors. Education should no longer be viewed in isolation but recognized as interconnected with various themes. However, from a research standpoint, the intricate relationship on the nexus between education and climate often lacks priority.

Recognizing this gap, the ODI has emphasized the interconnectedness of education and climate in a working paper introducing the CERF, urging for a more comprehensive understanding of this relationship:

> *A systematic approach to understanding climate-education nexus, which elucidates key relationships between climate change and education, while connecting different education levels and types with key climate change themes of adaptation, mitigation and loss and damage".*[71]
>
> **The Climate-Education Research Framework, 2024**
> ODI working paper (cdn.ngo)

The CERF framework highlights for both education and climate practitioners the interconnected nature of different sectors and emphasizes the importance of conducting research on how education can contribute positively to both the mitigation and adaptation aspects of climate change.

It highlights the significance of general education, climate literacy, and green skills as influential drivers for bringing about change, while also stresses the importance of identifying causal loops and heterogeneous impacts in the relationship between education and climate change.

The causal pathways between drivers of climate change risks and learning are complex. Climate-linked hazards, vulnerability, exposure, and responses interact with each other in various ways and impact learning capacity under extreme climate events.[72] [73]

A better awareness of this system nexus by educators and climate experts will generate collaboration, improve effectiveness of future activities, as well as maximize impacts in both education outcomes and climate adaptations and mitigations.

b) TEACHING: THE MOST TRANSFORMATIVE GREEN JOB

Within the complex interrelationship of education and climate systems, the teacher is the critical and foundational node in how information is presented, disseminated, and digested. This central changemaking role, combined with the profession's vast global scale, makes teaching the most transformative green job now and in the future, emphasizing the pivotal role of teachers who navigate diverse topics daily.

Teachers hold a unique position in the ecosystem which enables them to bridge messages between a diverse range of stakeholders, from parents to children, to local government and civil society.

They are also trusted key players in the local community, being positive role models in their localities and hence can act as an honest broker, bringing parties together.

They possess skills of practical collaboration and enquiry that are essential for more effective dissemination of mitigation and adaptation strategies at the local level. Teachers, as innovators, are uniquely positioned to grasp and shape the interplay and advancements at the intersection of education and climate change.

Human-centered design interventions, such as AKF's Schools2030, have shown how teachers can identify, develop, and replicate contextual innovations at both school and community levels, building upon these to advocate for step changes to national education policies.

Teachers are networked through formal and informal groups. Teacher unions are a powerful political force, invested in promoting a just transition, advocating for social protection, and developing policies to address inequalities in education arising from climate change.

Developing teaching communities of practice at the regional, national, and global levels aggregate teacher experiences, empowers the individual and the profession, and enables a sharing of best practices and innovations related to climate education.

"It is clear from COP28 UAE and the RewirEd Summit that teachers and their learners are essential to supporting education as a planetary strategy for effective climate adaptation and mitigation."

Dr. Andrew Cunningham
Global Education Lead, Aga Khan Foundation

c) THE GREEN CURRICULUM: TEACHERS MAKE IT GREEN

The green curriculum seeks to move on from a siloed focus on physical and social sciences to a more inclusive approach that looks at human behavior, addresses the root causes of climate change, and ensures that students develop a holistic understanding of environmental issues.

Well-trained, qualified, and well-paid teachers are a prerequisite to effective implementation of any new green curriculum. Teachers play a pivotal role in translating this curriculum into meaningful learning experiences and climate impact. Their guidance helps students connect theoretical knowledge with real-world applications, encouraging critical thinking and problem-solving skills.

The green curriculum works in concert with teachers, preparing students to understand the importance of holistic approaches that foster environmental stewardship, and to respond as global citizens to the dynamic climate challenges facing society.

The green curriculum integrates climate mitigation and adaptation in teaching and learning from pre-primary, primary, secondary, and tertiary school levels as well as in teacher training. It emphasizes the interconnections between the environment, economy, and society, engaging students across cognitive, socio-emotional, and behavioral domains to inspire action for sustainability.[74]

Greening Every Curriculum
UNESCO 2023

CASE STUDIES:

TEACHERS FOR THE PLANET

AGA KHAN FOUNDATION, LEARNING PLANET INSTITUTE & TEACH FOR ALL

Teachers for the Planet is an online repository of proven innovations in climate and education that are useful for teachers, school leaders, and education/climate policymakers, aiming to inspire participants to develop and share real examples that have a proven impact and can be shared at scale. This initiative brings together a global community of practice, galvanizing leading experts in climate and education to make concrete links between their sectors for impact at the school- and system-level, with tangible outputs that transform education towards climate action and leadership. The coalition puts teachers firmly at the center of the educational response to our climate crisis.

CO-CREATE

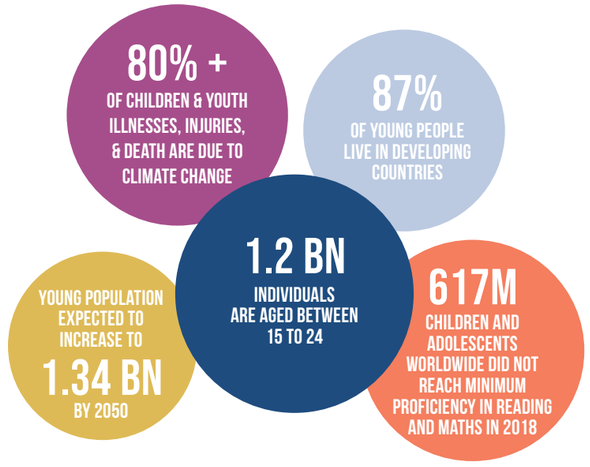
AGA KHAN FOUNDATION, FCDO & USAID

The CO-CREATE initiative, launched in Tanzania and announced at the RewirEd Summit 2023, is a collaborative effort aimed at enhancing education through climate action-focused pedagogy. This program utilizes AKF's Schools2030 methodology to transform teacher leadership and promote holistic learning outcomes. Through a human-centered design approach, educators will develop and test innovative educational tools that integrate climate action, aiming to improve both educational and youth development outcomes. This initiative places a strong emphasis on involving local communities, especially girls and women, to equip them with climate change knowledge tailored to their contexts.

WIN – WIN SOLUTION 4

THE CLIMATE-SKILLS NEXUS
PREPARING YOUTH FOR A CHANGING PLANET

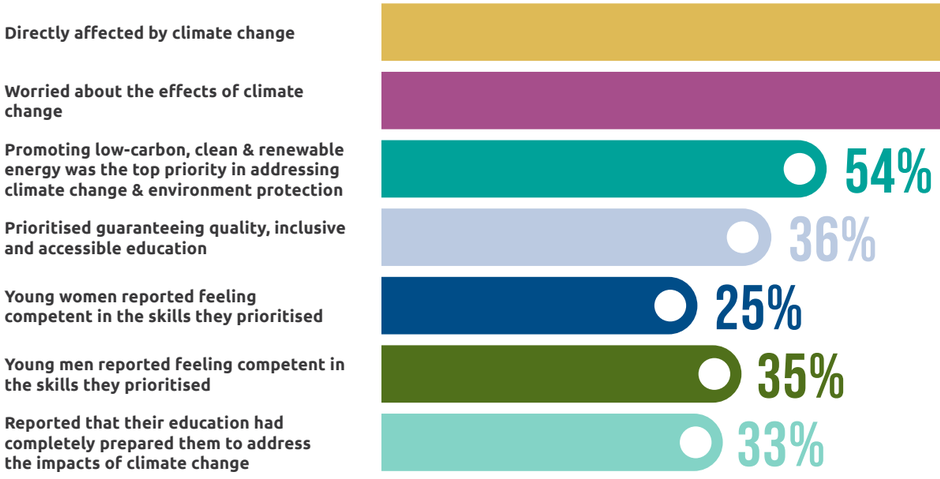
The global youth cohort is a significant demographic force, encompassing 1.2 billion individuals aged 15 to 24, which represents 16% of the world's population. This number is projected to increase to 1.34 billion by the year 2050.[75] A staggering 87% of these young people reside in developing countries, areas that are disproportionately affected by the ravages of climate change.[76] It is projected that by 2030, the majority will enter the labor market, only to confront challenges such as unemployment and underemployment.[77]



Infographic: The Climate-Skills Nexus[78]

WHAT DO YOUTH SAY?

2,229 youth from 53 countries, aged between 15-30 participated in an online survey conducted by Plan International.[79]



Youth are demanding to be more engaged and empowered to mitigate and adapt to climate change.
The Youth Declaration on Transforming Education from the TES 2022 explicitly highlights the links between education and climate in which youth demanded "decision-makers to invest in education for sustainable development across curricula, particularly climate education to build skills and knowledge needed to build resilience, mitigate the impacts of the climate crisis and ensure climate justice, as well as invest in early-warning systems and resilient infrastructure to ensure safety, security, and education continuity". [80]

We are talking about the future of humanity and of the next generation: they have to be included in the conversation.

Francisco Vera
Youth Advocate, UNICEF

a) EMPOWERING YOUTH FOR CLIMATE RESILIENCE: A HOLISTIC APPROACH TO SKILLS DEVELOPMENT AND EDUCATION

Youth have the greatest potential to be the drivers of the economic and social changes needed to address climate challenges, but they need a foundation in quality education. Developing a robust and resilient youth is based on children possessing the foundational functional literacy and numeracy skills on which to build. This functional angle goes beyond reading a simple sentence or undertaking a simple computation, but captures an "ability to identify, understand, interpret, create, communicate and compute, using printed and written materials associated with varying contexts". In 2018 there were 617 million children and adolescents worldwide (60%) not reaching minimum proficiency levels in reading and math.[81]

Building on this functional base enables youth development to be an effective strategy for building multi-generational human assets and competencies. These maximize human capital that empowers youth to advocate for climate action, to work in jobs created by the green transition, and to pioneer the technology for a net-zero-emissions future.[82]

Adaptation is an increasingly important response component to manage the risks of an inevitably changing climate, with 128 countries, covering around 60% of the world's population, having NAPs. However, for 70% of the countries with plans in place, these are still at an abstract level.[83] **Adaptation will require a fundamental shift in assumptions about risk, but also to change behavior and rethink approaches to the transfer of risk. Youth are at the center of this change.**

Successful adaptation in general requires a climate risk management mindset, technological and behavioral adaptation levels, economic and social adjustment, and institutional support and commitment.

The skills needed for climate adaptation and mitigation are not new but need to be adapted and more effectively applied to meet the needs of future jobs and lead transitions to prosperous and green economies in line with national ambitions.

These skills are framed around a base of common core academic competencies and subjects, complemented by 21st-century themes such as global awareness, civic literacy, health literacy, and entrepreneurial literacy.

Added to this base are three broad 'soft' skill sets that are specifically relevant to adaptive responses to climate change and include attitude, mental capacity, willingness, and desire to learn, thinking ability, morality and ethics, work ethic, resiliency, and coping abilities.[84]

Creating diverse and certifiable routes for youth that help promote innovative and sustainable economic growth is an essential part of building the skills base. Investing in country-level recognition of youth skills can create routes through which these skills can translate to economic gains for youth, and society at large. Other approaches are to support innovative pilot programs with cross-cutting thematic focus areas, as well as contextualizing and scaling successful solutions.

Specific soft skill sets include learning and innovation skills made up of critical thinking and problem solving, creativity and innovation, plus communication and collaboration; information; media and technology skills made up of ICT and media literacy; and life and career skills, focusing on flexibility and adaptability, initiative and self-direction. Social and cross-cultural skills focus on productivity and accountability, as well as leadership and responsibility. To be applied effectively these skills rely on support systems such as standards and assessments, applicable curriculum, professional development and learning environments.

21st Century Skills: How can you prepare students for the new Global Economy?
OECD and CISCO, May 2008

Creating a conducive spatial environment around youth with rewired curricula, pedagogy and assessments helps youth develop green skills. **Supporting multisectoral partnerships that take an ecosystem approach to developing green skills means that skills can be broadly and effectively applied and matched to 'green' jobs.**

At the community level, increased capacity-building tools, knowledge, as well as transparent and accessible information are important for youth to be more proactively involved in climate issues and activities. Specific education regarding adaptation can focus on traditional knowledge and science in local contexts.

A solution- and action-oriented process allows youth to acquire relevant and contextual skills applicable to their respective localities. Building the capacity of local teachers, educators, and mentors who can impart and facilitate information and knowledge exchange is central to this approach.[85] New education systems are essential to develop those skills required to effectively combat and adapt to climate change.

Linear education models that have dominated for over a hundred years, based on high investments in capital and human resources are unsustainable in marginalized, resource-poor contexts and countries.

These systems are characterized by linear temporal models, inflexible and generally not fit for purpose or response to the dynamic barriers and opportunities that characterize society.

Alternative education and qualification pathways within formal and non-formal education can ensure access to relevant and decent livelihoods.

b) A RENEWED FOCUS ON THE MARGINALIZED IS NEEDED

Investment in youth capacity and skill development is largely framed around a formal economy and does not prioritize or account for the scale and needs of the informal sector. Over 60% of the world's employed population work in the informal economy, accounting for two billion workers globally. A staggering 93% of the world's informal employment is in emerging and developing countries where climate change is having disproportionate effects on economically marginalized populations.[86]

Climate change is exacerbating environmental stresses and political crises that result in rising levels of migration between and within nations. Many of those moving are youth including migrants, asylum-seekers, refugees, returnees and stateless or internally displaced persons (IDPs). Out of the estimated 281 million international migrants living outside their country of origin, 1 in 5 is a young person.[87]

Tailored solutions need to build relevant skills for these populations. For example, leveraging successful skilling programs can create inclusive green skilling pathways that can eliminate barriers hindering youth participation. Establishing clear learning-to-earning pathways from green skilling programs to green jobs gives improved access to work opportunities.

Access to self-employment and entrepreneurship opportunities for youth in green sectors, enables youth to build sustainable livelihoods by addressing systemic barriers of access to capital, land, and legal constraints.

Women and girls are at the forefront of climate change, feeling the impacts far earlier and more intensely than their male counterparts.[88] Girls' increased education and empowerment can be the difference between life and death during climate-related crises, because not only are they more likely to be included in decision-making, but are also more likely to rebound after it ends.[89]

Research shows that if countries had invested more in girls' education between 1960 and 2003, 465 million people could have been saved from injury and 667 million from drought, and the death toll from floods could have been reduced by 60,000.[90] Thus, it is imperative to make sure girls' education is prioritized and sustained, avoiding traps like early marriage.[91]

c) EMPOWERING YOUTH LEADERSHIP

Education empowers youth to participate in climate policy reform and action by investing in efforts towards equipping young people with the knowledge, confidence, and tools to actively engage, and participate with voice and leadership in decision-making processes. Investing towards efforts that meaningfully engage youth – ensuring their engagement is utilized not tokenized – allows more effective solutions-based action.

This participation also manifests in political scenarios. Mobilization through increased awareness of policy and opportunity to advocate is a powerful political tool. Mobilizing youth to vote is an important way to influence climate policy change. Meaningful engagement in the community through peer networks and communities of practice are formidable mechanisms through which to participate and lead.

Increased youth participation means that the youth have become a powerful demographic purchasing group. Its influence on consumption can be profound and force changes in how goods and services are produced and consumed. Social media now allows youth to rapidly disseminate information and is a formidable tool affecting product sales.

The private sector is acutely aware of this and responds quickly to youth preferences, not only regarding products but also in approaches and mission. The recent rapid rise in Environmental, Social, and Governance (ESG) standards as a universal strategic pillar for companies has demonstrated high levels of consumer awareness and knowledge about important climate and social issues.

Strengthening local youth leadership, especially girls and women, is a powerful way to adapt to climate effects. From a gender perspective, the differential impact of climate change on women and girls underscores a critical area of concern, yet it also highlights an opportunity for transformative action. Research indicates that while women and girls are disproportionately affected by the risks associated with climate change, they also exhibit the greatest capacity for adaptation following the completion of secondary education.[92]

Education not only helps to reduce gender inequalities and consequential gaps in development, but it will also help improve communities' abilities to adapt.

CASE STUDIES:

GREEN RISING

UNICEF & GENERATION UNLIMITED

The Green Rising initiative, running from 2023 to 2025, aims to empower at least 10 million children and youth, particularly girls in developing countries, to engage in grassroots environmental actions. It is structured around three main pillars: volunteering, building green skills for jobs and entrepreneurship, and advocacy. The project plans to inspire hundreds of millions more through collaborations with a network of public, private, and youth stakeholders. Initially, the initiative will concentrate on accelerating and measuring the environmental actions taken by youth, and subsequently focus on facilitating these actions through its structured pillars.

YOUTH INNOVATION LABS

SAVE THE CHILDREN

The Youth Innovation Labs in Alexandria, Egypt, are designed to engage young climate activists in creating solutions to climate change by addressing the gaps in youth innovation and entrepreneurship skills in the Middle East. The Labs provide a collaborative space where participants can use design thinking, learn about green entrepreneurship, and develop financially sustainable enterprises. Through this combination of hands-on experience and new knowledge, the program aims to empower youth to develop impactful solutions to the climate crisis. The ultimate goal is to position these young individuals as key agents of climate action, ensuring their efforts are both financially sustainable and significantly positive in their impact.

CASE STUDIES:

STRATEGIC PARTNERSHIPS FOR YOUTH ENGAGEMENT AND EMPOWERMENT

THE AFRICA ADAPTATION ACCELERATION PROGRAM (AAAP)

The Global Center on Adaptation and the African Development Bank Group are jointly implementing a strategic partnership, the Africa Adaptation Acceleration Program (AAAP), aimed at mobilizing USD 25 billion to scale up and accelerate climate change adaptation actions across Africa.

YOUTH INNOVATION LABS

The objective of this pillar is to prepare a new generation of African youth for the transition towards green and climate-resilient development, as well as to combat poverty and improve the quality of life for young people in Africa. The pillar aims to promote innovation and inclusive growth for youth in climate-resilient jobs by developing skills and knowledge on adaptation, building the entrepreneurial capacity of African youth, and facilitating access to funding and mentorship to youth-led and women-led businesses in the adaptation space.

YOUTH LEADERSHIP PILLAR

The Global Youth Call to Action on Adaptation has been co-designed by the Global Center on Adaptation's Youth Adaptation Network through 15 global and regional consultations and inputs from hundreds of thousands of young people from 120 countries around the globe. The Youth Adaptation Network is an umbrella platform to engage, empower and amplify the role of youth in the adaptation agenda by providing them with access to adaptation knowledge and campaigning materials while connecting youth with leaders and businesses who are leading the global response to climate change.

ADAPTATION

LEADERSHIP

WIN – WIN SOLUTION 5

FOSTERING STRATEGIC PRIVATE SECTOR ENGAGEMENT
TO ACHIEVE A GREEN SOCIETY

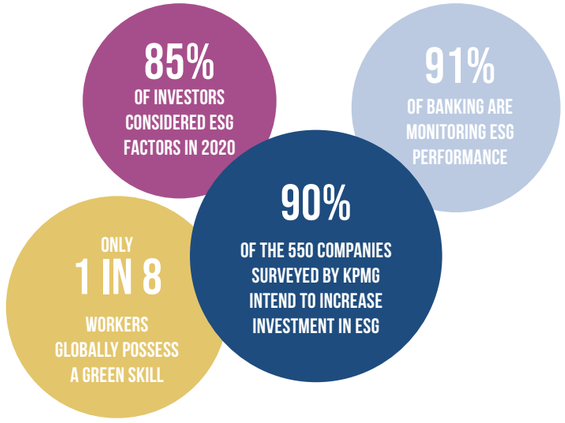
The dynamic involvement of the private sector is instrumental in addressing the intertwined challenges of education and climate change, as its role in transitioning towards a green society has become increasingly crucial. Its influence covers various sectors, from manufacturing to services, making it a significant player in shaping sustainable practices and fostering climate awareness.

The private sector's importance lies in its capacity to provide innovative funding solutions. Unlike traditional funding sources, private sector entities possess the agility and resources to explore unconventional financing mechanisms that can accelerate progress towards sustainable education and climate goals. Private sector entities can leverage various mechanisms including impact investment funds,[93] green bonds,[94] and development impact bonds[95] to contribute to emerging priorities such as the nexus of climate and education.

According to a KPMG report,[96] 90% of the 550 surveyed companies plan to increase investment in ESG capabilities over the next three years, indicating a growing recognition in the private sector of the importance of sustainable practices. Moreover, government incentives such as the Inflation Reduction Act[97] in the United States and the European Commission's Sustainable Finance Action Plan[98] illustrate how governments can encourage private investments towards sustainable projects. Such governmental initiatives demonstrate the political support in facilitating private sector contributions towards sustainable development and climate resilience within the educational framework.

Additionally, the private sector plays a pivotal role in strengthening green skills through investments in employee training and educational initiatives. Beyond merely focusing on internal workforce development, forward-thinking companies recognize the broader societal impact of investing in education as a public good. Traditionally confined to its profit-driven motives, the private sector is increasingly recognized for its role in market-relevant green skills development within the education sector.

For example, DP World, a global logistics company, invests beyond traditional employee training to



Infographic: Fostering Strategic Private Sector Engagement

encompass broader educational initiatives aimed at fostering sustainability.[99] The company collaborates with educational institutions, government agencies, and local communities to develop educational programs that promote environmental awareness, green skills development, and sustainable practices, focusing on the communities in which the company operates.

The example shows that the development of market-relevant green skills requires a shift towards collaborative efforts between governments, private entities, and educational institutions to create mutually beneficial partnerships that prioritize both profit and societal well-being. Through strategic alignment of incentives and regulatory frameworks, the private sector can be better incentivized to act in ways that contribute meaningfully to education and climate action.

Moreover, the private sector's engagement is aligned with shifting consumer demands towards sustainability, indicating a broader socio-economic transition towards green practices. Surveys[100] and market analyses[101] reveal a growing demand for sustainable products and services, which reflects an increasing consumer commitment to reducing environmental impact.

This shift in consumer behavior underscores the potential for the private sector to influence the climate-education nexus significantly.

By integrating sustainability into their business models and educational contributions, private sector entities can show how investments in education can yield long-term benefits for the environment, economy, and society.

A recent report shows that a focus on human sustainability can significantly enhance organizational value, with diverse organizations being 2.4 times more likely to outperform competitors financially.[102] This transformation requires more than just short-term financial injections or superficial green marketing strategies; it necessitates a comprehensive approach that incorporates long-term educational investments to cultivate a future workforce of green leaders.

However, despite the private sector's potential to contribute significantly to education transformation for climate goals, several challenges hinder its effective engagement in this critical endeavor. One of the primary challenges is the prioritization of profit over comprehensive educational investments.

Companies often prioritize short-term financial gains over investments in education or climate action, which leads to long-term benefits and impacts. One potential solution to this challenge lies in aligning investor and government incentives with sustainable practices. According to Gartner research, 85% of investors considered ESG factors in their investments in 2020, while 91% of banks monitor ESG performance of investments.[103]

By demonstrating a commitment to education transformation for climate goals, entities can attract investors who prioritize sustainability, thereby facilitating greater investment in educational initiatives aimed at addressing climate challenges. With investor and government incentives, the private sector is increasing its investment in people development, but they are largely limited to their employees rather than comprehensive education transformation as a public good.

The KPMG study revealed that employee training is one of the prioritized allocation areas of private sector entities' ESG investment.[104] There is a need for greater emphasis on the private sector investing in educational transformation as a public good, targeting broader society beyond entities' direct employees.

Furthermore, the rapidly evolving nature of climate change exacerbates challenges in private sector engagement. **The lack of a centralized platform for dialogue between businesses and educational institutions leads to mismatches between adaptive labor market demands and available skills.** The COP28 UAE Global Climate Talent Stocktake report showed that while there are more green jobs than ever, the industry faces a severe skills shortage.[105]

Tellingly, a report on Global Green Skills found that only 1 in 8 workers have a green skill globally.[106] Without mechanisms for continuous collaboration and curriculum adjustment, education systems risk falling out of sync with evolving skill requirements, hindering both economic growth and environmental sustainability.

Private sector entities should set up their sustainability strategies in alignment with national strategies for achieving SDGs, including climate and education goals. This alignment requires private sector entities to integrate climate resilience measures into their operations, supply chains, and product offerings, thereby contributing to mitigating climate change, as well as prioritizing investments in educational initiatives. Such changes will put the private sector in lockstep with global efforts to enhance educational opportunities and foster sustainable development worldwide.

Private sector engagement in education can cultivate an adaptive and competent workforce equipped with the necessary skills for green jobs, meeting the demands of a transitioning economy. By aligning education with industry needs, businesses can access a talent pool ready to drive sustainable initiatives and contribute to environmental stewardship.

Investing in education can shape consumer purchasing habits towards green products, fostering a green society. Educated consumers are more aware of the environmental impact of their choices, leading to increased demand for eco-friendly products. Entities that embrace sustainable practices not only benefit from government policies but also directly profit from customer preferences.

CASE STUDIES:

BRIDGING THE GAPS TOWARDS SUSTAINABLE BANKING

HSBC

HSBC MENAT's Sustainability Lead in Commercial Banking shared their approaches for transforming the sector to become more sustainable. This includes integrating sustainability training to help inform employees of the "why" and "how" to transform the business. HSBC MENAT is also implementing a 6-month long, free "Sustainable Business Accelerator Program" to help clients overcome the hurdles of transitioning to a green economy.

GLOBAL EDUCATION PLATFORM

DP WORLD

DP World has formed an ambitious education strategy to reach 1.5 million students by 2030, through improving access to education, industry exposure, and green skills for the future. Through global partnerships with organizations like Teach for All and the online DP World Platform that provides teachers with resources and career development pathways for students, DP World showcases how private sector actors can leverage their expertise and industry position to enhance education access and outcomes in their areas of operation.

CHAPTER 3

THE FUTURE OF PEOPLE AND PLANET

A WAY FORWARD

THE FUTURE OF PEOPLE AND PLANET
A WAY FORWARD

This chapter outlines nine key recommendations across policy, financing, and research, each with tangible actions. These recommendations are crucial for creating an enabling environment that supports the win-win solutions identified in the previous chapter.

The scale of the climate crisis is immense, and the impacts are felt across the planet today. Education systems are not only affected by the escalating impacts of climate change, but they also have a critical and undeniable role in leading the human capital revolution necessary to meet the challenge. Reaching the scale of this challenge will require action at multiple levels, driven by multilateral coordination.

On the education side, the link between climate and education should be materialized as an endeavor of the education sector by its leaders, policy makers, teachers, students, and in cooperation with other public and private actors. In order to bring this forward, the education sector needs to take a more holistic view and ownership over the integration of climate change into education transformation agendas. Many education actors view increased attention towards climate change as competition for their own focus and efforts within the education space and fail to acknowledge that the two sectors are inextricably linked.

ADVANCING ACTION AT THE INTERSECTION OF CLIMATE AND HEALTH

Actors within and beyond the climate community have come to a growing recognition in recent years of the intersectional nature of the effects of and responses to climate change. Global health is one such area, where a growing recognition of its importance and critical intersections with climate change have led to increasing calls for action at the nexus. These have eventually materialized in the establishment of a Health Day at COP28 UAE, early up in the agenda. However, bringing health onto the agenda was not a quick or easy task, and represents many years of concerted and coordinated advocacy efforts from both sectors. The World Health Organization (WHO), for example, has had a division working on the intersection of climate and health for nearly a decade before COP28 UAE, even though widespread discussions on the climate-health nexus have only become mainstream within the past couple of years. In either case, the full weight of critical multilateral institutions in both sectors, including the UNFCCC and WHO, was crucial for this advocacy.

It's important to note that the climate community is not a monolithic entity with the funding and responsibility to conceptualize and drive climate education initiatives. True progress on climate change will take place in the future across multiple and diverse sectors and the education sector needs to take primary responsibility for ensuring climate action is at the core of the education transformation agenda.

Often educational initiatives for climate action driven by other sectors narrowly position education as a tool for building awareness, without recognizing the critical need and potential for education transformation towards the development of skills, leadership, and innovation necessary to reach climate ambitions. Many capacity-building activities are advanced by sectoral adaptation and mitigation projects or programs without a strong and explicit link to the education system and often their benefits conclude with the closure of projects.

Multilateral processes provide global political signals to galvanize society and motivate action at global, regional, national, and local levels by defining policy directions and providing financial support. In the climate space, the UNFCCC process has been key to mobilizing global agendas on the nexus between climate and energy, agriculture, and others.[107]

However, the COP is a complex and crowded space that requires dedicated and consistent messaging to cut through the noise.[108] Taking the nexus of health and climate as an example, it has been a long road of continued engagement and dialogue at multiple levels to bring health further up the agenda, not only at COP but at other key fora as well.[109] Learning from this example, stakeholders interested in establishing a regular space for discussion and debate on the climate-education nexus need to act now to accelerate the process.

The Youth, Children, Education & Skills Day at COP28 UAE was a good start for international stakeholders to recognize the importance of education's role in achieving climate goals.[110] Throughout the sessions held at the RewirEd Summit[111] and across the Green Zone,[112] education sector and climate space stakeholders came together to highlight the importance of a holistic, human-centered approach to education for people and planet.

This was an important first step towards developing an integrated approach to the climate-education nexus. Driving lasting action for the climate through education will require action not only at COP, but at multiple international and regional fora, at the national and sub-national levels, and at the district and school levels.

The win-win solutions profiled in the previous chapter represent an important starting point, but require a well-established enabling environment to be successful. This chapter outlines the key changes necessary to carry this important agenda forward and several urgent actions to take to continue the momentum from COP28 UAE.

ADVANCING THE CLIMATE-EDUCATION NEXUS: ESSENTIAL CHANGES AT INTERNATIONAL AND NATIONAL LEVELS

POLICY RECOMMENDATIONS

COP presidencies should consider championing an Education Day as a permanent fixture higher up on the COP agenda.

Governments, advocates, and especially philanthropies can actively utilize other multilateral platforms such as the G20 as crucial platforms for fostering consensus-building from the Global South perspective around action in the climate-education nexus.

Ministers of education can proactively engage cross-sectoral stakeholders to closely link education and climate in national education sector plans and policies with implementing mechanisms.

Local educational leaders, teachers, and community leaders should take a proactive and unilateral role as champions, implementers and advocates of policies and educational approaches addressing the climate crisis at the school and district level.

ADVANCING THE CLIMATE-EDUCATION NEXUS ESSENTIAL CHANGES AT INTERNATIONAL & NATIONAL LEVELS

RESEARCH & EVIDENCE RECOMMENDATIONS

At the international level, actors from the education and climate sectors can align around common frameworks for defining, guiding, and measuring impact in the intersection of education and climate.

Governments and ministers of climate-relevant sectors should consider championing the cause of data-driven decision-making and invest in the development of evidence tailored to local contexts.

Researchers and decision-makers should further develop the evidence base on the connection between the climate-education nexus and people such as women and girls, displaced persons and other marginalized groups.

FINANCING RECOMMENDATIONS

At the international level, funders from both sectors should increase funding to support coordination, generate evidence, and support country-directed needs.

At the national level, multiple actors including governments, funders, private sector, and civil society should consider coming together to utilize available funds and align efficiency of spending, shifting to investment in education systems at the forefront of climate action.

Infographic: Advancing the Climate-Education Nexus: Essential Changes at International and National Levels

POLICY RECOMMENDATIONS

Meeting the scale of today's challenges requires high-level commitment and action. As one of the most important forums to drive a coordinated response, the future focus of COP agendas on the nexus between climate and education must raise and reflect the political importance of this subject. As a global forum for debate, it should bring together ministers and other leaders to discuss and define action in the policy domain as well as generate commitment to increase finance. It should also offer a space for education and climate organizations, champions, and practitioners to share recommendations on ways to advance the nexus and share experiences and related concerns, thereby enabling a focused consideration of education and its role in advancing climate goals. Much like the urgency and prominence accorded to discussions on health, education must be elevated within the COP framework to foster a human-centered approach and zoom in on the power of education transformation in addressing climate change.

RECOMMENDATION 1

COP presidencies should consider championing an Education Day as a permanent fixture higher up on the COP agenda, thereby institutionalizing the intersection of education and climate as a priority for both government and non-governmental actors.

Advocates, especially multilateral organizations, should act to push for the organization of an Education Day at COP29 and all future COPs.

It should be a full day focused on educational topics with ministerial events hosted in the Blue Zone. The agenda should include follow-ups on initiatives or declarations released at the previous COP, which ensure transparency of their implementation and accountability.

COP presidencies should also consider encouraging education stakeholders to take ownership in driving the agenda, transitioning from defining the intersection to actioning in the nexus.

They could also encourage climate stakeholders to actively collaborate with the education community to support the shared agenda and make commitments. Bidding mechanisms and tools to strengthen the nexus should be the key outcome of future Education Days at COP. By doing so, the collective efforts of nations and organizations can be harnessed to drive meaningful and tangible actions to achieve education transformation for the future of the planet.

TANGIBLE ACTIONS

1.	Education stakeholders and multilateral actors should have a clear roadmap to initiate dialogue with the COP29 presidency that contributes to the agenda development for the proposed Education Day, leveraging available resources, especially drawing on the five win-wins.
2.	Climate actors should begin to actively engage in co-creating the agenda of the proposed Education Day, bringing perspective on the values, skills, knowledge, and experiences needed to reach climate goals.
3.	COP presidencies of COP29 (Azerbaijan) and COP30 (Brazil) should begin to openly engage with education actors to envision the coming Education Day and decide on the agenda.

RECOMMENDATION 2

Governments, advocates, and especially philanthropies can actively utilize other multilateral platforms such as the Group of 20 (G20) as crucial platforms for fostering consensus-building from the Global South perspective around action in the climate-education nexus.

Besides COP, other multilateral forums are important platforms for raising political signals and garnering support for initiatives aimed at advancing global priorities. Most agreements of a global character are signed at G20,[113] which could also be leveraged as a significant platform for discussing the global agenda on the climate-education nexus.

It could be beneficial for G20 presidencies to consider bringing thematic sectors more closely in alignment by organizing joint ministerial meetings between ministers of education, climate, and other climate-relevant sectors such as energy and agriculture. This discussion will emphasize the importance of the nexus and could lead ministers to agree on coordinated and concrete steps regarding policy and finance.

The G20 Education Working Group (WG) is a specific task force within the G20 framework dedicated to researching, discussing, and proposing education policies. Over the years, the WG has highlighted the diversity of educational structures among member countries, leading to the identification of good practices in areas such as school-to-work transition, vocational education, early childhood education, and the integration of digital technology in education, as explored during the presidencies of Saudi Arabia, Italy, Indonesia, and India.[114]

G20 ENGAGEMENT GROUPS

G20 engagement groups are official forums for dialogue between various stakeholders, including civil society, private sector entities, and think tanks, allowing them to contribute perspectives and recommendations on G20 discussions and decisions.

While the engagement groups provide broader input and perspectives from diverse stakeholders, the Education Working Group focuses on in-depth analysis and policy formulation. The engagement groups could play a more active role in shaping the priorities of the Education Working Group, emphasizing the role of education in addressing climate goals.

The Education WG has also published reports to synthesize lessons learned for other countries to replicate and recommend future policy trends, such as the 2023 report focusing on digital learning.[115] Under the Brazilian Presidency, although climate change is an important topic under the theme of 'Building a Just World and Sustainable Planet',[116] it is not one of the key topics of the G20 WG Group.

Bringing the climate-education nexus onto the agenda will require a dedicated effort across the G20 engagement groups, Education WG's knowledge partners[117] (e.g., multilaterals such as GPE, UNESCO) and other side-events to ensure this important topic is not overlooked.[118]

TANGIBLE ACTIONS

1.	The Brazilian G20 Presidency could encourage action at the intersection of education and climate by organizing a joint ministerial discussion that facilitates North-South dialogue and engages education and environment ministers.
2.	Education and climate stakeholders should proactively plan and align engagement at upcoming G20 events by engaging in G20 engagement groups that focus on education and highlight solutions in the nexus such as the win-wins profiled earlier in this Report.
3.	Advocates within the education and climate sectors should align around a joint advocacy approach to key moments beyond G20 and COP29, such as the UN General Assembly.

RECOMMENDATION 3

At the national level, ministers of education can proactively engage cross-sectoral stakeholders by leveraging inter-ministerial committees to closely link education and climate in national education sector plans and policies with implementing mechanisms. Such committees can include ministries of environment and other climate-relevant sectors, the private sector, and civil society.

As for climate and education sector policies, sector ministers can articulate the values, skills, knowledge, and experiences necessary to strengthen capacity within their respective sectors to effectively address climate challenges. Some countries such as South Africa[119] and Brazil[120] have established inter-ministerial committees on climate change, which gather cross-sectoral perspectives in formulating climate policies.

Consultative policymaking has been a strong part of the political culture in South Africa, especially on climate change. Education should be considered as a key department to consult rather than a supporting department as they are considered now.[121] Current national efforts focus on climate change learning strategies (e.g., Kenya, Malawi) which are under the ACE framework, led by Ministers of Environment.

These policy initiatives should embrace a human-centered approach to climate action, aligning with the Framework for Global Education Transformation. NDCs and NAPs could leverage this framework to facilitate monitoring and evaluation across nations, reflecting the robust integration of policies across sectors. This will not only strengthen the nexus, but also facilitate developing countries to communicate their needs relating to the nexus. Ministers of education can proactively engage in the current procedure and build upon current efforts to refresh the strategies.

Furthermore, governments could establish national conversations to regularly deliberate on competing priorities, providing a platform for multi-sectoral engagement, including the private sector.

These discussions should culminate in the establishment of government-led supporting mechanisms for national and local initiatives, effectively harnessing the transformative potential of education as an engine of climate action.

In the same way that ministers of environment collaborate around climate change topics, ministers of education can also establish education planning committees to bring cross-sectoral perspectives on education policy planning. In Colombia, the ministry of education and the ministry of environment and sustainable development have also created the Interinstitutional Technical Committees of Environmental Education (CIDEA), which implement environmental education according to local guidelines for each region.[122] When designing curricula, ministers of education can actively engage with counterparts in climate-relevant sectors and the private sector to understand capacity needs comprehensively.

A good example is South Africa's collaboration to adopt its ECD policy with six other core departments, including the departments of health and social development.[123] Strengthening capacity should go beyond skills development, embracing the holistic human development approach advocated for in earlier chapters. Indonesia's national curriculum framework has included climate as a core competence as part of the attitudes, skills, and knowledge that students should achieve.[124]

Moreover, the resilience of the education system should be a central consideration in policies. School infrastructure should be strengthened and highlighted in[125] education policies with existing guidelines such as those from the Comprehensive School Safety Framework.[126] The resilience of vulnerable groups[127] should also be reflected in the policies. During climate crises, ensuring the continuity of education becomes important, particularly for vulnerable populations.[128]

National strategies should include utilizing digital tools for effective communication of climate-related information within the education sector and fostering climate awareness and sustainable practices, while ensuring inclusive access for all students.

Besides integrating climate into education policies and vice versa, ministers should consider developing mechanisms to guide implementation and engage with stakeholders at sub-national level. Engaging stakeholders at the sub-national level, such as local governments, community organizations, and educational institutions, is crucial for garnering support, tailoring initiatives to regional needs, and fostering collaborative efforts.

The Green School Program in India is a good example of engaging local schools and organizations.[129] The initiative ensures that climate education is not only taught in theory, but also applied in practical, real-world contexts, fostering a culture of environmental responsibility from the ground up.

SOUTH AFRICA'S INTER-MINISTERIAL POLICY-MAKING PROCEDURE

South Africa encourages broad stakeholder buy-in across ministries through its participatory processes. Several key institutions are driving this effort. For example, the Inter-Ministerial Committee on Climate Change (IMCCC) was established to align climate change responses of line ministries with national policies including education. The Forum of South African Directors General (FOSAD) is targeting the bureaucracy supporting climate policy and brings together Heads of Departments and Director Generals from each line ministry to enhance policy alignment, monitor implementation, and provide technical support, including education. These inter-ministerial forums provide a platform for integration of sectoral priorities and perspectives into climate policy, as well as climate perspectives into sectoral policy.

KENYA'S 10-YEAR ROADMAP OF CLIMATE CHANGE LEARNING [130]

In 2021, the Kenyan government released the Kenya Climate Change Learning Strategy which sets out a ten-year vision for tackling climate change. The strategic objectives include developing knowledge and capacity across society at large, as well as within educational institutions. The overall objective for the education sector is to 'enhance climate change knowledge, interpretation and its applications among learners, teachers, trainers and facilitators by 2030'. The objectives are to:

- Integrate climate change curricula at all levels of education and training
- Enhance the capacities of teachers and facilitators to teach and assess climate change at all levels of education and training
- Develop appropriate supporting supplementary teaching and learning climate change materials for all levels of education and training
- Leverage non-formal and informal education to promote climate change learning
- Link research, innovation, academic institutions, and industry to climate change policy processes for knowledge and evidence generations, to provide a scientific basis in promotion of climate change learning

MALAWI'S VISION AND PROGRESS TO A CLIMATE-RESILIENT EDUCATION SYSTEM [131]

Malawi's 2063 plan details the country's strategies for adapting to climate change and building a more resilient education system. In its first ten-year implementation plan between 2021 and 2030, Malawi intends to offer at least 12 years of education to every child by 2030, and ensure that once enrolled, every learner completes their primary and secondary education. The country commits to mobilizing resources to support the development of resilient and sustainable school infrastructure and digitalization to ensure access to education even during a climate crisis.

Specifically, the Minister of Education of Malawi, Hon. Madalitso Wirima Kambauwa, highlighted the progress made on climate-resilient school feeding at COP28 UAE and called upon partners to develop models around schools as the nucleus for climate adaptation, mitigation, climate education, and transformation of generations. The minister invited partners to join in and support Malawi's '5-SaFES', an approach that embraces school feeding and innovative climate resilience approaches, including digitalization and promotion of teachers as climate champions.

Moreover, Malawi's Climate Change Strategy provides concrete priorities and activities to advance the nexus work. The interventions are mainly to integrate climate into traditional education interventions such as teacher training and curricula development, leveraging the expertise from the Malawi's Ministry of Education and the Ministry of Forestry and Natural Resources.

TANGIBLE ACTIONS

1.	Ministers of education can undertake a thorough review of national education policies to effectively integrate climate goals. This will help refine educational strategies to align with broader climate objectives, using a whole-of-society, ecosystem approach that emphasizes cross-sectoral collaboration.
2.	Ministers of climate-relevant sectors could consider organizing discussions on comprehensive capacity building with a human-centered approach as they refine sector policies, potentially utilizing the four pillars of the Framework for Global Education Transformation.
3.	Governments can initiate the formation of WGs dedicated to organizing national dialogues which address competing priorities across various sectors such as climate, education, and others. The WGs will determine key focal points and establish an operational model for these dialogues.

RECOMMENDATION 4

Local educational leaders, teachers, and community leaders should take a proactive and unilateral role as champions, implementers, and advocates of policies and educational approaches addressing the climate crisis at the school and district level. It is essential for district and school-level actors to proactively support a whole-of-society approach to climate action without waiting for a fully developed framework or policy.[132]

By leading initiatives like awareness campaigns and community education programs, they become champions of climate action, ensuring its integration into local communities and classrooms. Moreover, teachers often have critical insights at the classroom level which can be utilized to design the interventions, whereby making them key implementers.[133]

To help turn insights into action, school leaders and teachers should be empowered to adopt adaptive and inclusive approaches to integrate climate directly into teaching practice and pedagogical approaches. Local leaders play a crucial role in conveying the support and resources required from the national level. They should actively communicate their needs through established channels, supported by robust reporting and data collection mechanisms.[134]

Meanwhile, civil society actors have a role to play in supporting and advocating for action from local leaders and educational institutions, working collaboratively with teachers and local officials to drive change.

TANGIBLE ACTIONS

1.	Education stakeholders at all levels must recognize the importance of taking ownership to integrate climate perspectives into educational practice, leveraging other stakeholders such as climate experts, civil society, and private sectors to engage in collaborative actions.
2.	National ministries of education and local authorities should provide expertise, tools, and funding to support training on climate change for teachers and education leaders at the school and district levels, focusing not only on delivering a particular climate curriculum but on integrating climate perspectives into education systems and approaches.
3.	The private sector should actively engage with local educational institutions to spell out the capacity needs and cooperate on creating a green jobs pipeline from the schoolhouse to the workplace that fits into local contexts.

FINANCING RECOMMENDATIONS

RECOMMENDATION 1

At the international level, funders from Climate and education sectors sectors should consider increasing funding to support coordination, generate evidence and guidelines, and support country-directed needs.

International funders have begun to commit funding to initiatives in the nexus, thanks in large part to concerted efforts by advocates in the education sector. Notable outcomes of this include the BRACE initiative launched with USD 70 million at COP28 UAE by the GPE, Save the Children, and the GCF,[135] as well as the launch of the GEP Trust Fund managed by UNESCO.[136]

These funds mark an important step on the path towards fully addressing the opportunities and challenges in the climate-education nexus, and the growing focus of key multilateral funds such as GPE and GCF towards this work.

THE GREENING EDUCATION PARTNERSHIP MULTI PARTNER TRUST FUND MANAGED BY UNESCO

The GEP Multi-Partner Trust Fund (MPTF) was launched at COP28 UAE, which is the first dedicated fund in the nexus of climate change and education. It aims to mobilize resources synergistically, overcome silos, increase coherence among a wide range of actors, reduce transaction costs for governments, and create new pathways for innovative and impactful financing.

UNESCO aims to mobilize USD 50 million for the Trust Fund within the first year and hopes to reach USD 100 million within three years. The MPTF is organized through the Multi-Partner Trust Fund Office of the UN Development Program (UNDP) and managed by UNESCO, with support from UNFCCC, UNICEF, UNEP, and UNITAR.

BRACE INITIATIVE

With USD 70 million from the Green Climate Fund and the GPE, Building the Climate Resilience of Children and Communities through the Education Sector (BRACE) initiative is the largest investment of climate finance in the education sector to date.

The initiative will retrofit and construct greener and more climate-adaptive schools in line with the international School Safety Framework, initially in Cambodia, South Sudan, and Tonga. Based on results and lessons from these pilot countries, BRACE will expand its investment pool of school infrastructure projects that GCF, GPE and other donors, including the private sector, can contribute to through additional financing for greener and more climate-resilient education systems.

While initiatives like this mark a promising start, reaching the scale of the challenge and generating significant evidence on highest impact priorities will require greater investment. Funds like Education Cannot Wait are beginning to build strategies around the integration of climate into education work, but still lack funding as evidenced by shortfalls in the last replenishment.[137]

Similarly, GPE has taken a proactive role in addressing the nexus but will face a constrained funding environment for its planned replenishment in 2025.[138] From a climate angle, GCF has begun to engage in this space, but it stands mostly alone among the major climate funds and will need to ramp up engagement to fully address issues in the nexus.[139]

Through these funds and beyond, funders from across sectors should acknowledge the pivotal role of education in addressing climate challenges and channel funding to support comprehensive action for the planet through education transformation. However, emphasis here should not only lie in mobilizing additional funding but continuing to ensure the most effective use and distribution of funding.

International funders and actors can help drive this, particularly in supporting coordination and knowledge sharing, in generating evidence to ensure effectiveness of funding, and in channeling funding to country-directed needs and priorities. Multilateral funds have an important role to play in driving this, but a concerted effort across multiple types of donors and financiers is needed.

Grant funding from bilateral and philanthropic donors plays an especially important role in funding coordinated action and developing innovative new approaches in the nexus. However, donors have not yet systemically addressed the intersection of these sectors and have not fully leveraged education as a support for climate goals.

According to the OECD Creditor Reporting System, less than 4% of education ODA includes specific climate-related action in 2021 and only 2% of Development Assistance Committee donors' total bilateral climate-related ODA flowed to the education sector in 2021.[140] Philanthropy's investment in this space is growing but also continues to be nascent.

Additional donor funding will be necessary to not only address climate-related impacts on education outcomes, but more importantly to leverage the immense potential of education transformation for reaching climate ambitions. Grant funding plays an important role within education and climate finance, particularly in funding human-centered programming, research, coordination, and advocacy, among other key functions.

Multilateral Development Banks (MDBs) also play a key role in generating evidence, developing policy guidelines, and providing technical assistance in the nexus.[141] The MDBs—including the World Bank Group, the Asian Development Bank, the Interamerican Development Bank, the African Development Bank, among others—can lead the efforts to develop guidance and support governments in developing

policies that successfully mainstream climate in education systems transformation. This can include both guidance to countries on addressing climate-related disruptions or impacts on education systems, but also on building education systems and infrastructure with climate at the heart of instruction.

The MDBs have begun to recognize the role of education in achieving climate goals and in some cases have begun to integrate this thinking into the structure of their investment priorities. In the case of the World Bank, initial investments focus on various topics such as climate research, climate-resilient education infrastructure, strengthening community resilience and green skills in climate-relevant sectors.[142]

These initiatives have seen a good start to recognizing the importance of education, but further focus is needed on positioning education transformation as an important tool on the pathway to achieving climate goals and unlocking financing to support human capital development.

Existing efforts have primarily come from education teams within the MDBs focusing on the impact of climate change on education, but further recognition and collaboration should happen across departments within the MDBs, including within other climate-relevant sectors.

Given the scale of these institutions and their funding, the nexus between education and climate is not only an area where they can supply sufficient funding but also where they can foster demand among countries for more transformative and integrated interventions between the sectors.

Specifically, MDBs can facilitate the integration of the nexus approach by embracing the Human Capital Approach championed by the World Bank. Through the Human Capital Index (HCI), which evaluates countries based on their investments in education and health, MDBs can assess nations' human capital development efforts.

By aligning financial support with the HCI rankings, MDBs can ensure that projects directly contribute to improving human capital outcomes, thereby fostering more effective and targeted investments in areas crucial for sustainable development.

Currently at the international level, there are no aligned targets or investment cases for further investment from donors in this important intersection.

To strengthen the case for support from bilateral donors and philanthropies, advocates and civil society should unify around a clear request and provide compelling evidence for the necessary investment.

This can also support smaller players to align and leverage funding through these larger channels. Advocates should place special emphasis on inclusive language and targeting of funding, to ensure that impacted communities have a voice in these calls to action and that funding and interventions continue to target the most vulnerable groups.

Additionally, to ensure accountability and transparency for future action, commitments to action in the nexus must take place in key global fora and be accompanied with concrete pledges to drive further action.

Multilateral Development Banks (MDBs) play a key role in generating evidence, developing policy guidelines, and providing technical assistance in the nexus. The MDBs — including the World Bank Group, the Asian Development Bank, the Interamerican Development Bank, the African Development Bank, among others—can lead the efforts to develop guidance and support governments in developing policies.

TANGIBLE ACTIONS

1. International funds including bilateral, multilateral, philanthropic, and private sector entities should consider concrete commitments in the nexus, through their own initiatives or by supporting funds through long-term investment.
2. Multilateral funders in both sectors—such as GPE and ECW in education, GCF and GEP MPTF in climate—can continue efforts to establish partnerships and jointly mobilize funding to support education transformation as a driver of progress towards climate goals.
3. Bilateral donors and philanthropic funders can identify opportunities to address the climate-education nexus within their portfolios and consider investments in the win-win solutions outlined in this report.
4. Bilateral donors supportive of action in the nexus (such as the UK) can leverage multilateral platforms and dialogues with other donors to support further action and identify opportunities for collaboration and co-investment.
5. Advocates including multilateral actors and civil society should support bilateral and philanthropic funders with research and evidence on high-impact interventions as they develop investment strategies in the nexus.
6. Advocates from key multilateral funds and civil society should further develop the case for investing in the nexus, including illustrating the impact of investment in education transformation for broader societal and planetary impact.
7. Advocates from key multilateral funds and civil society should leverage important pledging moments—such as GPE's planned replenishment in 2025—to highlight the climate-education nexus and the need for further investment.

FCDO'S FOCUS ON CLIMATE AND GIRLS' EDUCATION

The UK has bilateral education programs in approximately 20 countries across Africa, Asia and the Middle East and is a major supporter of global education funds. The Foreign and Commonwealth Development Office (FCDO) has taken a prominent role in the nexus and committed to integrating climate and environment co-benefits into their existing and new programs across their education portfolio. In 2022, FCDO engaged actively with GPE to co-host a convening, bringing together key actors in the education and climate sectors to address linkages between the topics.

Building upon FCDO's strong focus on girls' education within their broader education portfolio, in 2023 they released a position paper highlighting the linkages between education, gender, and climate.

WORLD BANK: HUMAN CAPITAL PROJECT

Human Capital Project (HCP) is a global effort to accelerate more and better investments in people for greater equity and economic growth.

For example, in Egypt, the project has witnessed the impact of government-led economic reform programs, particularly one that reduced energy subsidies to allocate more resources to human capital sectors like health, education, and social protection.

This initiative not only ensured sustainable funding for Egypt's human capital development but also contributed to long-term economic stability.

RECOMMENDATION 2

At the national level, multiple actors including governments, funders, private sector, and civil society should consider coming together to utilize available funds and align efficiency of spending, shifting to investment in education systems at the forefront of climate action.

Domestic resources also play an important role in driving action in the nexus of education and climate, particularly given the outsized role of domestic resources[143] (such as tax revenue) in funding education systems. This is especially true given steady declines in development assistance from international education donors.

As a result, funding at the national level will become increasingly important for driving the development and implementation of national level strategies to develop the human capital needed to reach countries' climate ambitions.

Multiple actors within and beyond the government can support effective resource mobilization and allocation of resources to action in the nexus. Ministers of finance have an important role to play here in growing resources available at the national level and supporting effective allocation.[144]

Ministers of education, environment, and other climate-relevant sectors also have an important role to play in designing and making the case for inter-ministerial collaboration and investment in the nexus. Moreover, ministers of education should consider actively tracking the broader societal impact of these collaborations, which can attract more national level funding.

Outside of the government, actors benefiting from the transformative impact such as the private sector should also contribute to investment in education transformation, such as investments in STEM programs in schools.[145]

Civil society and researchers can support with both evidence-based advocacy that prioritizes education and climate action at the national level, and by developing innovative mechanisms and tools to spur resource mobilization from both governmental and non-governmental actors.

CASE STUDY: VIETNAM'S INTEGRATION OF CLIMATE INTO EDUCATION SYSTEMS

Vietnam recognizes education as a national priority and has been spending 20% of its budget on education since 2008. The country integrates environmental education into all levels of its formal education system. The national policy highlights raising awareness and responsibility for environmental protection. The national government facilitates workshops for senior education leaders to strengthen awareness and foster support for integrating education for sustainable development into education policies and programs at provincial and national levels.

The national mandate focuses primarily on engaging youth in conservation issues, motivating public participation in environmental behaviors, and encouraging inclusive participation of political and social institutions, civil society organizations, and mass media in conservation initiatives.

Governments can align with MDB goals by emphasizing the human capital approach, thereby attracting additional funding from them to strengthen the nexus. MDB reform, including the World Bank Group's own reform process, offers an opportunity to discuss and ensure countries access sufficient funding for integrated nexus solutions. There are several key proposals from the Summit for a new Global Financing Pact under the broader MDB reform agenda.[146]

MDBs have advanced in strengthening the climate project pipeline, creating a roadmap to boost green transition funding, and establishing a cross-MDB ecosystem. Educational advocates can engage this ecosystem to shape education's role in the green transition. MDBs currently focus on discrete interventions in the nexus, but greater potential lies in strategic investments in national-level education transformation.

Education and environment ministers can use innovative funding from international actors to support national climate goals.

Important initiatives within multilateral funds such as the GPE Multiplier have begun to incentivize domestic resource mobilization and put funding in the direction of education ministries.[147]

Other initiatives such as the Global Education Solutions Accelerator spearheaded by Dubai Cares put the needs of countries at the forefront of education transformation and help make guidance and funding available to support national ambitions through cross-sectoral solutions.[148]

The CO-CREATE initiative in Tanzania – aiming to empower teachers in the nexus – is an example of effectively utilizing funding from bilateral donors.

Furthermore, the private sector can also contribute significantly here, not only through direct local investment and partnership with schools and districts, but also on larger scale initiatives such as development impact bonds (DIBs).[149]

TANGIBLE ACTIONS

1.	Ministers of finance can prioritize domestic resource mobilization as a pathway to fund critical education transformation goals by reviewing their budgets and integrating education into climate spending and vice versa.
2.	Ministers of education and other climate-related sectors can develop the case for investment in inter-ministerial initiatives that leverage education transformation as a critical input to climate goals.
3.	Ministers of education should consider investing human resources in exploring diverse funding mechanisms and partnerships including with the private sector to mobilize more funding in education transformation.
4.	Private sector actors should actively invest in national and local initiatives designed to build human capital to support the economic transformation needed to face climate change.
5.	International donors and education advocates can support efforts to make more resources to incentivize and support priorities designed by national level actors and ministries.
6.	MDBs should regularly review investment strategies to address the climate-education nexus, providing extra funding for sustainable schools, teacher training in climate, and broader education and economic transformation.
7.	Climate and education advocates should actively participate in the MDB reform to ensure both sectors are considered in aligning MDB lending with the SDGs. They can also enhance the intersection of these sectors by advocating to increase capital available to MDB client countries.
8.	MDBs should actively support knowledge creation and guide countries in developing policies that effectively address challenges and leverage opportunities in the climate-education nexus.

RESEARCH AND EVIDENCE RECOMMENDATIONS

RECOMMENDATION 1

At the international level, actors from the education and climate sectors should consider aligning around common frameworks for defining, guiding, and measuring impact in the intersection of education and climate.

Defining a guiding framework for action in the nexus is a critical step to ensure effective and coordinated use of resources. As a first step, this can help spur increased funding but also crucially ensure that funding is focused on the highest impact interventions. A unified set of impact indicators can also provide a foundation for researchers to monitor and evaluate the impact and effectiveness of nexus funding and policy interventions.

Several existing frameworks—particularly from multilateral organizations active in the education space—have sought to define the nexus and identify principles of climate-smart education systems. This includes GPE's framework which outlines seven dimensions critical towards the development of climate-smart education systems,[150] and UNICEF's progress indicators toward climate-resilient education systems which aims to measure climate resilience at the national level.[151]

These frameworks are significant first steps and should be leveraged as important sources of guidance for the sector, but further evidence is needed on the areas of greatest need and highest potential for impact. The win-win solutions identified in this report can serve as an evidence-based starting point for high impact interventions, with further evidence of their impact and those of other interventions continually tracked to ensure effective use of resources.

Moreover, further indicators are needed to demonstrate the impact of education transformation towards climate ambitions. With these additional indicators, policymakers and stakeholders can better evaluate the effectiveness of education transformation in fostering climate resilience and sustainability within communities. Once indicators are developed, multilateral actors can lead the effort to facilitate research institutions to share key findings in the nexus on a centralized platform such as COP and G7/G20.

UNICEF'S SYSTEM-WIDE STANDARDS AND PROGRESS INDICATORS FOR CLIMATE RESILIENT EDUCATION SYSTEMS

This tool is one of the key outputs of the UNICEF Regional Office for South Asia study on the impacts of and responses to climate change across education systems in South Asia. The tool consists of seven key education system components, including 1) policies, plans and strategies; 2) finance; 3) curriculum, teaching and learning; 4) teacher capacity development; 5) communication, cooperation and partnership; 6) school/community student participation platforms; and 7) monitoring, evaluation and accountability. Each system component is guided by a quality standard statement, which is used as criteria to rate the standard across four levels: gap, latent, emerging, and established/implemented.

TANGIBLE ACTIONS

1. **Actors in the education and climate sectors should advance discussions around guiding frameworks for action in the nexus and focus on driving alignment around a core set of measurable indicators.**

2. **Bilateral and multilateral actors can align around a set of measures to track investment in the nexus and ensure transparency of funding delivered.**

3. **Researchers should advance research on the cost effectiveness and return on investment of interventions in the climate-education nexus to focus efforts and further develop the case for education transformation at the heart of climate action.**

RECOMMENDATION 2

Governments and ministers of climate-relevant sectors should consider championing the cause of data-driven decision-making and invest in the development of evidence tailored to local contexts.

Data is a critical input to effective policies in both the climate and education sectors.[152] For government officials, data can be an invaluable tool in identifying and meeting needs at the national, sub-national, and district levels, but this requires robust data collection and management approach and infrastructure. In most developing country contexts, existing systems and datasets are not yet robust enough to drive decision-making, and further data must be collected to identify needs and impacts in the nexus.[153]

Multiple actors at the national level can help improve the collection and use of data to drive decision-making around interventions in the education-climate nexus. Government-led dialogues are necessary to facilitate the meaningful integration of climate and education data, enabling research and generating evidence for decision-making.

Governments should consider leading in developing research priorities that not only fit into the national and subnational contexts but also link to the international impact framework.

Education leaders and teachers at the district and school levels are important actors in not only collecting data, but also in ensuring local contexts and needs are integrated into data collection and management policies. To support these efforts, research institutions can also explore the use of climate-related data in education activities, cooperating in knowledge exchange, and addressing research gaps.[154]

SIERRA LEONE'S NEW POLICY ON SCHOOL INFRASTRUCTURE BASED ON LOCAL DATA

The Ministry of Basic and Senior Secondary Education (MBSSE) in Sierra Leone collaborated with its partners to develop a new policy on school infrastructure and catchment area planning, informed by consolidated school census data from 2015 to 2021. This policy, supported by implementation guidelines and a data-driven online tool, prioritizes targeted support for vulnerable populations and guides infrastructure decisions through real-time, locally owned data analysis. The initiative aims to expand access to education by empowering informed policy development and approval processes.

TANGIBLE ACTIONS

1. National governments should organize dialogues to gather ministers of education, environment and other climate-relevant sectors to discuss the provision of data and set up a roadmap to meaningfully integrate data across sectors.
2. Local education leaders and teachers should identify and raise data needs with national governments to drive district-level decision-making for climate action.
3. Research institutions should support the development of data policies and frameworks that best support data-driven decision-making at national and local levels.

RECOMMENDATION 3

Researchers and decision-makers should further develop the evidence base on the connection between the climate-education nexus and people such as women and girls, displaced persons and other marginalized groups.

Widespread evidence shows the outsized impacts of climate change on vulnerable groups, as well as the disproportionate impacts of educational disruptions on these same groups.[155] As a result, interventions at the nexus of education and climate should take the unique opportunities and challenges for reaching these groups into account. To do so, further evidence is needed on the approaches and policies which best address the unique needs of diverse groups.

Various actors within the education and climate spaces have begun to capture thinking around these intersections. FCDO's position paper in 2023 on girls' education and climate change is one example and included a landscaping analysis in terms of the impact and pathways of change at this intersection.[156]

UNESCO has also published a 'Learning at Risk' report to provide concrete policy guidance at all levels to ensure the inclusion of climate-displaced persons in education.[157] These are important first approaches, but further evidence is needed to ensure inclusive and impactful action in the nexus.

Local research institutions have a role to play here, by developing evidence that is contextually relevant and responsive to the challenges faced by vulnerable communities. The research topics should cover the impact of specific practices or interventions, pedagogical approaches that reach vulnerable people, and alternative learning pathways to ensure learning outcomes.

By focusing on gathering data and conducting research within these local contexts, these institutions can contribute valuable insights into the intersection of education and climate for marginalized and vulnerable groups, ensuring that interventions are inclusive and equitable.

UNESCO'S REPORT TARGETING CLIMATE-DISPLACED PERSONS

The 'Learning at Risk' global report concludes the "initiative on the impact of climate change and displacement on the right to education," offering policy guidance at national, regional, and global levels to ensure the education rights of climate-displaced persons. The global report is drawn on three regional synthesis reports, in which regional-specific evidence is provided. The report provides necessary evidence and tools to strengthen education interventions targeting displaced persons.

TANGIBLE ACTIONS

1. International actors including bilateral donors, multilateral agencies, and civil society can further explore the climate-education nexus and topics including gender or displacement to provide policy guidance for addressing these topics at the international, national, and local levels.
2. Ministers of education can develop guidance for national and sub-national education policies to ensure education systems integrate the needs of vulnerable groups within the context of climate change.
3. Local universities and research institutions should prioritize a literature review on vulnerable groups and establish a research plan for identifying the scope of the challenge and appropriate solutions that are tailored to local contexts.

CHAPTER 4

A ROADMAP FOR ACTION

KEY GLOBAL MOMENTS

A ROADMAP FOR ACTION
KEY GLOBAL MOMENTS

Stakeholders can make significant strides by engaging proactively and decisively to maximize education's role in addressing climate change. This chapter presents a roadmap to translate overarching goals into tangible commitments, promote cross-sectoral collaboration, and advocate for change at key global events.

The policy, financing, and research and evidence recommendations are critical priorities that players across sectors and geographies can commit to in the mid- to long-term. However, the urgency of action at the nexus requires strong commitment to ensure education transformation for climate action is an international, national, and local priority everywhere. If actors across the spectrum come together to drive concerted and effective action through 2025 then success can look as follows:

4.1 POLICY

- Impactful Education Days at COP29 and COP30 that convene multilateral stakeholders, financiers, ministers of education and environment, and practitioners in both sectors to make concrete commitments and pledges in the nexus.
- The climate-education nexus is brought to the agenda of G20 working group meetings, especially the sustainable finance working group, climate and environment sustainability working group, and education working group, and other political forums like the G7 and UNGA.
- More ministers of education conduct comprehensive policy reviews and initiate at least one interministerial meeting to plan the inclusion of climate goals in national education policies or sector plans.
- Local authorities or school leaders organize large campaigns in partnership with teachers and students to empower local change agents at the district and school levels with effective tools and resources to navigate the effects of and contribute towards positive action in the face of climate change.

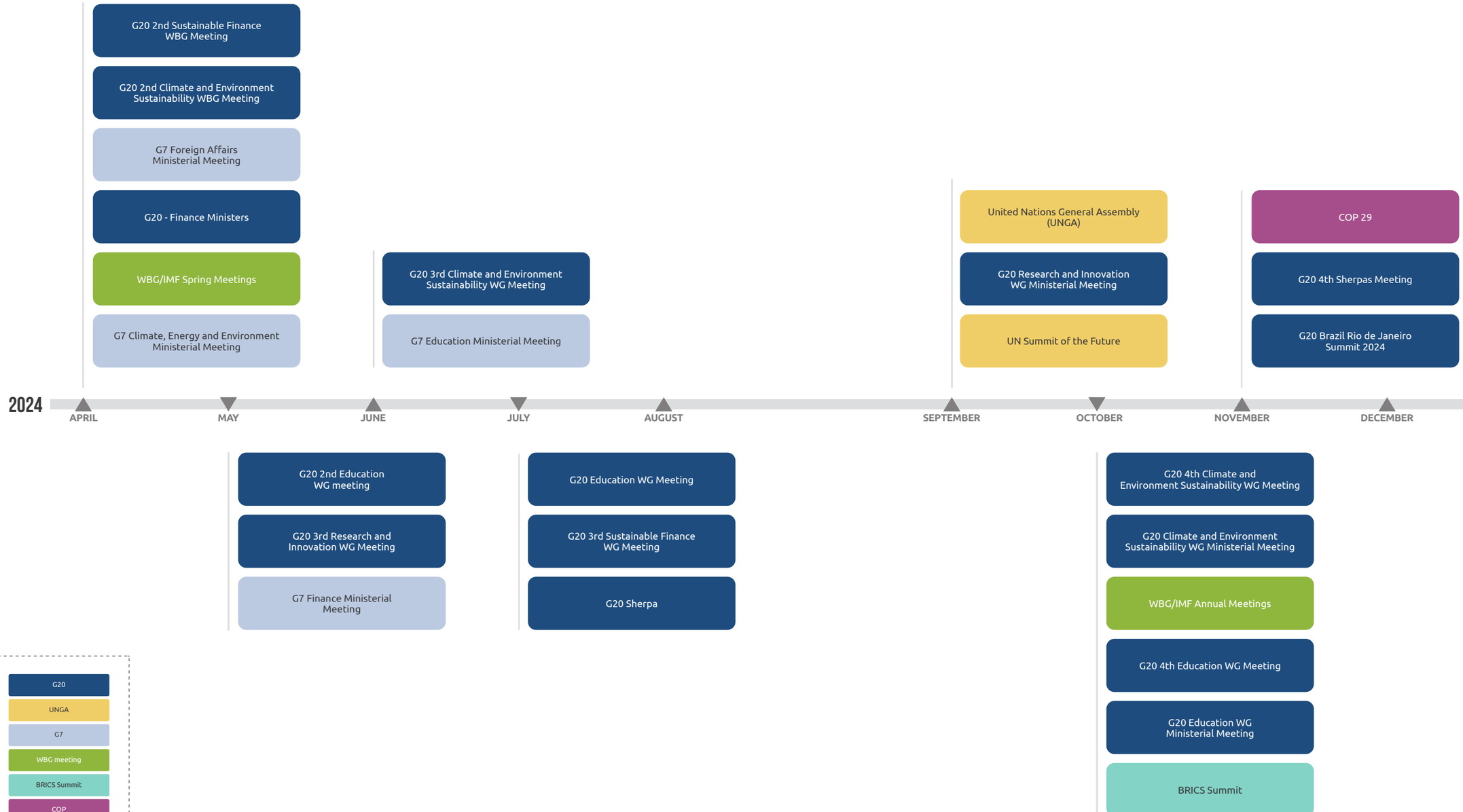
4.2 FINANCE

- Key multilateral funds in the nexus including GPE, ECW, GCF, and others receive increasing commitments from a broadening array of international funders and increasingly devote more funds towards nexus initiatives such as BRACE.
- The GEP Trust Fund rapidly solidifies and brings concrete commitments from donors committed to driving action in the nexus.
- More bilateral education funding integrates climate-related objectives, and more climate funding integrates education transformation as a strategy and a goal.
- National governments mobilize increased domestic funding to support national education transformation, supported by the integration of climate change into national education sector plans and policies.

4.3 RESEARCH AND EVIDENCE

- Researchers and advocates develop publications or reports with stronger evidence on the cost-effectiveness and return on investment of interventions in the climate and education nexus.
- Researchers and advocates develop a clearer baseline of international and national funding flows in the climate-education nexus, to serve as a starting point for future calls for increased funding and a potential investment case.

KEY GLOBAL MOMENTS AT THE CLIMATE-EDUCATION NEXUS



a) G20

The G20, comprising the world's major economies, holds a critical role in influencing both the global north and the global south in terms of financial investment and political priorities. Its decisions and policies shape not only economic trajectories but also social and environmental landscapes worldwide.[158]

By setting agendas and fostering cooperation among its members, the G20 wields considerable influence in mobilizing resources and attention toward pressing global issues. This influence is particularly significant for developing countries in the global south, where decisions made within the G20 framework can have profound implications for economic development, sustainability, and social equity.

Within the G20 framework, various working groups (WGs) address specific challenges and opportunities. Three crucial working groups for stakeholders to focus their advocacy on are the Sustainable Finance WG,[159] Environment and Climate Sustainability WG,[160] and Education WG.[161] The Sustainable Finance WG aims to mobilize sustainable finance as a way of ensuring global growth and stability and promoting the transitions towards greener, more resilient, and inclusive societies and economies.

Meanwhile, the Environment and Climate Sustainability WG is focusing on the implementation of ambitious climate action plans and the transition to a low-carbon economy, recognizing the urgent need for transformative policies and investments to address climate change.

Lastly, the Education WG emphasizes the importance of enhancing access to quality education, particularly in developing countries, as a crucial component of sustainable development and social progress.

G20 engagement groups are the key channels to influence the working groups' agendas.[162] C20 is an example channel for civil society to influence various working groups including the education working group.[163] Advocating for education transformation as a key solution to climate change and mobilizing more climate finance to support this transformation aligns seamlessly with the current priorities of the Sustainable Finance WG, Climate and Environment Sustainability WG, and Education WG within the G20 framework.

By emphasizing education transformation as a core component of sustainability, advocates can promote investments that support education initiatives addressing climate change mitigation and adaptation, thus contributing to the broader goals of the Sustainable Finance WG. Similarly, advocates should emphasize the role of education transformation as part of the transformative policies and investments to address climate change which is the focus of the climate working group.

Additionally, the Education WGs emphasis on enhancing access to quality education, particularly in developing countries, presents an opportunity to integrate climate change into the educational system. This integration supports the goals of both the Sustainable Finance WG and the Climate and Environment Sustainability WG, which could attract climate financial support to achieve co-benefits.

b) UNGA

The United Nations General Assembly (UNGA) plays a pivotal role in setting international agendas and shaping political priorities, serving as a crucial platform for addressing interconnected global challenges.[164] Particularly, it provides a forum for member states, international organizations, and civil society actors to collectively address pressing issues and advocate for comprehensive approaches that recognize the interlinkages between different domains. Thus, leveraging the undoubted importance of UNGA in the global calendar can elevate the role of the nexus as a political priority, fostering integrated solutions to complex global challenges.

Sustainable development is one of the key topics on UNGA's agenda and education for sustainable development was one of the key areas raised at UNGA in 2023.[165] The Summit of the Future in 2024, a gathering convened within the framework of the UNGA, emerges as a critical platform for the nexus advocates to influence political messages and shape policy agendas, further discussing the role of education in sustainable development.[166]

This summit serves as a space for leaders from diverse sectors and backgrounds to discuss emerging trends, identify innovative solutions, and catalyze action on pressing global issues, especially regarding SDGs. Given its inclusive nature and emphasis on forward-looking strategies, the Summit of the Future provides a unique opportunity for stakeholders to advocate for holistic approaches that address interconnected challenges. By engaging with key stakeholders and decision-makers at this summit, advocates can amplify their voices and promote integrated solutions that prioritize sustainability, resilience, and inclusivity.

Advocates should emphasize the importance of nexus actions in addressing multifaceted challenges and achieving SDGs. Specifically, highlighting the interconnectedness of climate, environment, education, and finance can resonate with the Summit's emphasis on fostering innovative and inclusive solutions for a more sustainable future. By demonstrating how integrated approaches can yield greater impact and resilience, advocates can effectively influence the summit's agenda and promote comprehensive strategies that address the interconnected challenges of our time.

c) THE WORLD BANK ANNUAL MEETINGS

The World Bank Annual Meeting in 2025 is set to serve as a pivotal platform for advancing nexus actions and addressing interconnected global challenges. The Annual Meeting officially convenes the Boards of Governors, the Development Committee and the International Monetary and Financial Committee (IMFC).[167]

The Development Committee and the IMFC advise the Boards of Governors on issues of global concern, including the world economic outlook, poverty eradication, economic development, and aid effectiveness. As a leading international financial institution, the World Bank plays a crucial role in mobilizing funding and resources to support sustainable development initiatives across various sectors.

With a focus on aid effectiveness and maximizing the impact of development assistance, the World Bank's interventions encompass a wide range of interconnected issues, including the nexus of education and climate.

The World Bank has already worked on the intersection of climate and education and currently focuses on adolescents' green skills, research, and education infrastructure.[168] Advocates should focus on the role of transforming education systems and the effectiveness of investing in children at younger ages. Nexus stakeholders aiming to influence the agenda of the World Bank's Annual Meeting should adopt a multi-pronged approach that leverages various channels of influence, including civil society, research institutions, networks, and media.

They should highlight the importance of adopting holistic strategies and emphasize the synergies and co-benefits of integrated approaches via different channels. Advocates can leverage the proposed win-win solutions in this report to align their advocacy message with the World Bank's priorities. Moreover, engaging with decision-makers in the Bank can also provide opportunities to shape policies toward integrated solutions and provide developing countries with technical assistance.

d) G7

The G7 plays a crucial role in shaping global political dialogue and development strategies, given its members' significant economic and political influence.[169] As major donors, the G7 countries often lead in setting international development agendas, providing financial assistance, and driving policy initiatives to address global challenges such as poverty, healthcare, education, and climate change. Their coordinated efforts can shape global development priorities and resource allocation within their own countries and internationally.

The G7 convenes various ministerial meetings to address specific challenges and opportunities across different sectors.[170] Notable ministerial meetings to advance the nexus include the G7 Climate, Energy, and Environment Ministerial Meeting, the G7 Finance Ministerial Meeting, the G7 Foreign Affairs Ministerial Meeting, and the G7 Education Ministerial Meeting.

Currently, the topics under discussion in these meetings reflect the urgent need to address climate change, promote sustainable development, enhance financial stability, and foster global cooperation on key educational initiatives.

Leveraging government relationships is the most effective approach to shape the agenda of these meetings. The advocacy messages need to be tailored to align the interests of different groups of ministries. The G7 Climate, Energy, and Environment Ministerial Meeting focuses on advancing climate action, transitioning to renewable energy sources, and promoting environmental sustainability.

The G7 Finance Ministerial Meeting aims to address financial challenges and promote economic resilience, including discussions on sustainable finance and mobilizing resources for development. The G7 Foreign Affairs Ministerial Meeting focuses on global diplomacy, security, and international cooperation, with an emphasis on addressing geopolitical challenges and promoting peace and stability.

The G7 Education Ministerial Meeting emphasizes the importance of quality education and lifelong learning, particularly in the context of global development and human capital investment.

e) BRICS SUMMIT 2024

The BRICS, comprised of Brazil, Russia, India, China, and South Africa, holds a significant role as an emerging market bloc, representing a substantial portion of the global economy and population. In January 2024, the United Arab Emirates, Egypt, and others joined BRICS, further amplifying it as a platform for emerging economies to collaborate and address shared challenges.[171]

As BRICS nations continue to grow and assert their presence on the global stage, recognizing the importance of the nexus between various sectors such as climate, environment, education, and finance can unlock new financial opportunities and foster sustainable development. By acknowledging and integrating the nexus into their agendas, BRICS countries can harness the synergies between these sectors to drive inclusive growth and address pressing global challenges.

While historically the BRICS agenda has primarily centered around economic and geopolitical issues, there is a growing recognition within the bloc of the importance of addressing SDGs including climate change and education. In 2023, the BRICS leaders highlighted the essential role of multilateral cooperation in limiting the risks stemming from geopolitical and geoeconomic fragmentation and pledged to intensify efforts on various issues including sustainable development, climate change, and education, among other areas of mutual interest.[172]

On partnership for sustainable development, the leaders recognized the importance of implementing the SDGs in an integrated and holistic manner.

f) COP29 AND COP30

COP29 is an important milestone to continue the momentum of the Youth, Children, Education & Skills Day at COP28 UAE.[173] The COP29 Presidency is engaging Parties throughout the year at Ministerial, Heads of Delegation, and technical levels to lay the groundwork needed to deliver a successful COP29.

To ensure coherence, the Presidency works closely with the Chairs of the subsidiary bodies, with the support of the secretariat, on a common vision towards COP29. Azerbaijan has appointed executives from the private sector and Azerbaijani government officials to the committee tasked with organizing the COP29 climate summit.[174] The government officials include Ministers of various sectors including health, education, economy, energy, transport, foreign affairs, and others.

Brazil's presidency at COP30 also provides great opportunities for an official Education Day as Brazil is one of the countries that emphasizes the role of education in achieving climate ambitions. Brazil emphasized that environmental education must be included in the education system at all levels in an integrated manner, with mandatory content.[175] Advocates should leverage all opportunities mentioned above at the G20, UNGA, and BRICS Summit this year to level up education on the COP30 agenda.

g) THE UN SECRETARY-GENERAL'S AGENDA FOR EDUCATION TRANSFORMATION

The 2022 Transforming Education Summit, convened by the UN Secretary-General, successfully raised awareness of the global education crisis. To build on this foundation, the global education transformation agenda, led by the UN Secretary-General, must be prioritized to make education a key driver of broader development outcomes. In the coming years, major global platforms such as the UN Summit of the Future and the Global Education Meeting should be used to advance educational discussions and integrate education into socio-economic and environmental strategies, highlighting its role in sustainable development.

Advocacy efforts for increased educational funding through strategic engagements will be critical during this time. The Fourth International Conference on Financing for Development and the World Summit on Social Development are key forums for obtaining the financial backing necessary for implementing transformative educational policies.

While global initiatives are crucial for 2030 progress, significant focus also needs to be placed on effective, inclusive, technical, and financial support for country-level action. This involves reimagining the UN system and the international community's support to catalyze transformative education initiatives.

Key events, including the Summit of the Future in New York in September 2024, the Global Education Meeting in Autumn 2024, and subsequent events related to the Transforming Education Agenda, provide crucial opportunities to assess progress and reinforce commitments to education reform. For example, at the Summit of the Future, countries are expected to adopt a Pact for the Future covering sustainable development financing, international peace, science, technology, innovation, and digital cooperation, youth empowerment, and global governance transformation.

These events will be crucial for enhancing international cooperation and advancing transformative education policies, ensuring that education remains a central focus in the global development agenda, and advocating for policies and investments that sustain the impact of educational transformation as we approach and move beyond 2030.

CONCLUSION

The challenges we face in addressing climate change demand ongoing attention and prioritization. Yet, there are also good reasons to maintain an optimistic outlook about the future. The path forward is clear, and we possess the necessary tools and knowledge to pave the way on this path. Increasingly, leaders recognize that climate action represents an opportunity for growth, green jobs, and overall enhanced wellbeing.

Since 2010, there has been a noticeable improvement in projections for future temperature increases,[176] thanks in part to the expansion of mitigation policies in recent years.[177] The commitment to reducing emissions is gaining traction globally, and clean energy technologies are not only becoming more affordable but are also being adopted at an accelerating pace worldwide. Building on these positive trends and continuing to strive for more win-wins, will enable economic, social, and political progress while protecting the environment.

By doing so, we can ensure a sustainable future that balances the needs of our planet with those of its inhabitants. In sum, the global response to climate change, while marked by significant achievements, faces considerable challenges. The path forward requires a multisectoral approach, guided by a commitment to transformative action and underpinned by a shared vision of a sustainable and resilient future.

This report has redefined the climate-education nexus from a whole-of-society perspective, emphasizing the power of holistic education transformation in achieving climate ambitions. Beginning with the state of education systems today, which face multiple complex challenges such as inequalities and inadequacies, this report and the previous report Rewiring Education for People and Planet have also explored co-benefits with sectors related to climate. Within this context, the Dubai Cares' Framework for Global Education Transformation introduced earlier in this report highlights four pillars - values, skills, knowledge, and experiences - that are important for future generations to achieve a sustainable life.

These pillars become even more important given the urgent need to address the climate crisis and overcome the gaps in political commitment, policy frameworks, and capacities necessary to meet the scale of the challenge.

There is an urgent need to reframe education for climate action and shift from fragmented interventions toward sustainable and systematic approaches that put education transformation at the heart of future efforts. A human centered approach to education is the key to overcoming the core challenges of current climate actions and empowering individuals toward a sustainable future.

The report has also proposed five concrete win-win solutions as examples and priority areas to achieve co-benefits for multiple sectors and a diverse array of actors. Actors looking to make an impact in the nexus should strongly consider investing and supporting these solutions, as well as supporting the policy, finance and research elements needed to enable progress.

To bring this broad overview of action in the nexus to tangible next steps, this report has finally outlined recommendations and concrete next steps for various stakeholder groups to act now to create an enabling environment to further strengthen collaborative action in the climate-education nexus.

Urgent and concerted action is needed from diverse actors to make these recommendations a reality. This action should transcend organizations, borders, disciplines, sectors, and philosophical differences. We invite all actors to coalesce around these recommendations and to make them their own – through collaboration and deliberation at international fora, through design of new interventions and financing mechanisms, through research and inquiry towards a more effective response and a brighter tomorrow.

No action should be considered too small, and we must work together for a sustainable and prosperous future.

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ACRONYMS

ACE - Action for Climate Empowerment

AKF - Aga Khan Foundation

BRACE - Building the Climate Resilience of Children and Communities through the Education Sector

BRICS - Intergovernmental organization made of Brazil, Russia, India, China, South Africa, Egypt, Ethiopia, Iran, and the United Arab Emirates

CERF - Climate-Education Research Framework

CIDEA - Interinstitutional Technical Committees of Environmental Education

COP - Conference of the Parties

COP28 UAE - Conference of the Parties 28, United Arab Emirates

DESD - Decade of Education for Sustainable Development

ECD - Early Childhood Development

ECW - Education Cannot Wait

EFA - Education For All

ESG - Environmental, Social, and Governance

FCDO - UK Foreign, Commonwealth & Development Office

FOSAD - Forum of South African Directors General

G20 - Group of 20

G7 - Group of 7

GCF - Green Climate Fund

GEP - Greening Education Partnership

GenU - Generation Unlimited

GESA - Global Education Solutions Accelerator

GHG - Greenhouse Gases

GPE - Global Partnership for Education

GST – Global Stocktake

HCI - Human Capital Index

HCP – Human Capital Project

ICT - Information and Communication Technology

IDP - Internally Displaced People

IMCCC - Inter-Ministerial Committee on Climate Change

IMFC - International Monetary and Financial Committee

IPCC - Intergovernmental Panel on Climate Change

IRC - International Rescue Committee

ISCED - International Standard Classification of Education

MENAT - Middle East, North Africa, and Turkey

MDB – Multilateral Development Bank

MPTF - Multi-Partner Trust Fund

NAP – National Adaptation Plan

NDC - Nationally Determined Contributions

NGO – Non-Governmental Organization

ODA – Official Development Assistance

ODI - Overseas Development Institute

OECD - Organization for Economic Cooperation and Development

SDG - Sustainable Development Goal

STEM - Science, Technology, Engineering, and Mathematics

TES - Transforming Education Summit

UAE - United Arab Emirates

UNDP – United Nations Development Programme

UNEP – United Nations Environment Programme

UNESCO - United Nations Educational, Scientific and Cultural Organization

UNFCCC - United Nations Framework Convention on Climate Change

UNITAR - United Nations Institute for Training and Research

UNGA – United Nations General Assembly

UNICEF - United Nations International Children' Emergency Fund

USAID – United States Agency for International Development

WASH - Water, Sanitation, and Hygiene

WG - Working Group

WHO – World Health Organization

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