



ADAPTATION AND RESILIENCE BREAKTHROUGHS

The global transformation towards resilient development ahead of COP27

New York Climate Week 2022 Summary Report





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1. THE ADAPTATION AND RESILIENCE BREAKTHROUGHS

1.1. The Challenge

Global Climate Action towards 1.5°C is accelerating with breakthroughs achieved across the economy, from deforestation-free supply chains to electric vehicles from green steel to green hydrogen. Pledges on mitigation by corporations, civil society and governments demonstrate the power of collective ambition and innovation towards a net zero world. But emissions continue to rise and climate devastation continues to intensify. The climate-induced catastrophe in Pakistan this year highlights the immediacy of this challenge.

With UNFCCC COP27 on the horizon, the momentum behind 1.5°C needs to translate urgently into implementation. Yet solving for decarbonisation is not enough, it is only part of the equation. Past emissions have already pushed our planet into the danger zone. We are approaching five disastrous climate tipping points with potential cascading effects¹. The IPCC AR 6 report is clear that climate impacts are increasing and that most of them are interconnected and often irreversible².

We need to simultaneously muster efforts behind adaptation and resilience breakthroughs because millions of people globally are already experiencing the economic, social and ecosystem impacts of climate change. In 2021 alone, extreme weather driven by climate change caused over US\$170 billion in damages.³ Urgent action is needed now at an unprecedented pace and scale.

Global adaptation action and finance is growing - but not fast enough, not equally across geographies, and mostly comes from the public sector. For example, 39% of the average \$29.5 billion in climate finance for Africa in 2019 and 2020 went towards adaptation. Yet just 3% of those funds came from the private sector.⁴

Adaptation and Resilience Breakthroughs | September 2022

¹ Armstrong McKay DI, Staal A, Abrams JF, Winkelmann R, Sakschewski B, Loriani S, Fetzer I, Cornell SE, Rockström J, Lenton TM. Exceeding 1.5°C global warming could trigger multiple climate tipping points. Science. 2022 Sep 9

² https://www.ipcc.ch/2022/02/28/pr-wgii-ar6/, posted on February 28th, 2022

³ Christian Aid, "Counting the cost 2021: a year of climate breakdown," 2021

⁴ Global Center on Adaptation, <u>Financial Innovation for Climate Adaptation in Africa</u>, 2022





To deliver climate action, whole-scale transformations are needed on two fronts:

- 1. To get to net zero emissions as soon as possible to prevent the damage from getting any worse
- 2. To significantly increase actions and investments to adapt now to the impacts of climate change, putting people and nature first in pursuit of a resilient world where we don't just survive climate shocks and stresses but thrive in spite of them

Adaptation refers to the process for human and natural ecosystems to adjust to actual or expected climate and its effects in order to moderate harm or exploit potential benefits. Adaptation is needed to ensure the safety of populations and the security of assets⁵. Resilience is the capacity of social, economic and environmental systems to cope with a hazardous event or trend or disturbance, responding or reorganising in ways that maintain their essential function, identity and structure while also maintaining the capacity for adaptation, learning and transformation.

To achieve the scale and pace needed for adaptation, while responding to local needs and ensuring equality, these solutions must be transformative and must impact at system level. A myriad of adaptation solutions across thematic priorities have been scientifically proven to deliver multiple social, economic and environmental benefits and avoid maladaptation. However, it is often unclear what these are achieving at the system level. A set of intermediate milestones are needed to help give direction to these transformative solutions for tangible and attainable outcomes for adaptation of both natural and human systems.

These milestones are the Adaptation and Resilience Breakthroughs.

1.2. Defining Adaptation and Resilience Breakthroughs

Adaptation and Resilience Breakthroughs define high-impact solutions that accelerate resilience to the risks & hazards faced by the people in vulnerable communities. They clearly outline milestones that are needed to be achieved to reduce climate risks through adaptation action and building resilience. They are applicable on a large-scale, impacting many people across multiple geographies. They have simple, specific, measurable indicators that guide progress, focusing on people protected and the finance mobilised towards that goal. Given their complexity, they need collective action to deliver - depending on NSAs, civil society, governments and other important stakeholders across geographies.

The Marrakesh Partnership defined five key *impact systems* to structure Resilience initiatives globally as part of the Climate Action Pathways; the Adaptation and Resilience Breakthroughs build on these by defining attainable breakthrough milestones and goals across the impact systems and cross-cutting

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⁵ https://www.ipcc.ch/report/ar6/wg2/downloads/report/IPCC_AR6_WGII_Annex-II.pdf





enablers. Building on the Global Commission on Adaptation Flagship Report, the UN Sustainable Development Goals and bringing together global aspirations, these goals present a guiding star for the Breakthroughs and the long-term ambitions of a Resilient World.



Each breakthrough includes a tangible and trackable measure of our progress to accelerate adaptation towards resilience and of the work being done within the NSA community. To that end, specific targets have been identified based on existing science-based targets with an emphasis on delivering action by 2030. These targets consolidate the work of existing and new resilience initiatives. Collectively, they articulate what key actors must do, and by when, to deliver the systems change we need to achieve a resilient, zero carbon world. This creates a shared vision for how all the different players in a system can contribute to the whole.

The Adaptation and Resilience Breakthroughs are informed by an analysis of the hazards that vulnerable communities face and actions needed to build resilience against those hazards. The intensity of these hazards varies globally but they represent an existential threat to billions globally.⁷

- 1. Ocean warming & acidification
- 2. Coastal flooding
- 3. River flooding
- 4. Extreme wet weather events (e.g., storms, cyclones)
- 5. Droughts
- 6. Extreme heats (e.g., wildfires)
- 7. Soil erosion

Climate risks are a function of more than just hazards, but also the vulnerability and exposure of communities and ecosystems. Each breakthrough addresses at least one of the hazards and seeks to reduce the vulnerability and exposure to that hazard to improve the resilience of communities and ecosystems.

⁶ UNFCCC, Marrakesh Partnership Climate Action Pathways, 2022

⁷ McKinsey, The Climate Resilience Challenge, 2021





1.3. The Adaptation and Resilience Breakthroughs

Below is an initial list of Adaptation and Resilience Breakthroughs that were identified in consultation with NSA actors across sectors. This list is preliminary and open to feedback and may be adapted and expanded in the run up to COP27 and beyond.

Impact System	Adaptation and Resilience Breakthrough Solutions with 2030 Outcome Targets	Key organisations & initiatives in this space
Food Security/ Agriculture Systems	Climate resilient, sustainable agriculture increases yields by 17% without expansion of the agricultural frontier, improving livelihoods including of smallholder farmers.	Breakthrough Agenda Agriculture Innovation MIssion for Climate (AIM4C) Africa Food Systems Transformation Initiative (AFSTI) FCDO FAST Initiative ClimEAT World Resources Institute
Food Security/ Agriculture Systems	The share of food production loss and per capita food waste is halved (relative to 2019) increasing food security	Africa Food Systems Transformation Initiative (AFSTI) Just rural transition Food and land use coalition
Water & Nature Systems	Protection of 45 m ha lands and inland waters, 2 bn ha sustainable management and 350 m ha restoration of land, securing indigenous rights and local communities with use of nature-based solutions to improve water security and livelihoods. Restoration of degraded lands in countries in Africa AFR 100 20x20 Latin America Debt for Nature & Climate Chan Swaps Bonn Challenge Water funds in developing cour	
Water & Nature Systems	Financial institutions tap into nature-based solutions investment opportunities of USD 354 billion/year needed by 2030. By 2025, financial institutions eliminate commodity-driven deforestation from portfolios contributing to halting land conversion.	Global Canopy, N4C, CDP, Conservation International, WEF-TFA, PRI, CERES, FAIRR, Accountability Framework Initiative, SBTN and SBTI-FLAG
Human Settlements Systems	I bn people have better design, construction and access to finance to live in decent, safe, affordable and climate resilient homes	Roof Over Our Heads (ROOH) Extreme Heat Resilience Alliance Climate Resilient Housing REALL, BuildChange, Habitat for Humanity, UN Habitat, World Green Building Council, Resilience Rising, C40 Cities, ICLEI





Human Settlements Systems	Smart & early warning systems reach 3 billion people	World Meteorological Organisation - AWARE Initiative UN REAP GSMA Mobile for Development UN ITU Resurgence, Red Cross, SDI Affiliates, UK Met Office, CREWS
Ocean and Coastal Systems	USD 4 billion invested to secure the future of 15 million hectares of mangroves globally, through collective action on halting mangrove loss, restoring half of recent losses, doubling protection of mangroves globally and ensuring sustainable long-term finance for all existing mangroves, leading to increased resilience of coastal communities to storms and enhanced livelihoods.	Global Mangrove Alliance Ocean Risk and Resilience Action Alliance Earth Security
Infrastructure Systems	A diverse set of clean and climate resilient energy generation sources enable affordable access to electricity for 679 million people who lack it and higher quality access for 1 billion underserved people	Global Energy Alliance on People and Planet Clean Cooking Alliance RMI WRI GOGLA CLASP Energy Saving Trust & Energy Access Coalition
Infrastructure Systems	2.2B people access low-cost, clean vehicles and mobility solutions through the expansion of affordable resilient public and private transport services	C40 International Transport Workers Federation
Cross-cutting: Planning 10,000 cities have evidence-based, actionable adaptation plans		Cities Race to Resilience 1000 Cities Adapt Now (GCA) Global Covenant of Mayors on Climate and Energy C40, ICLEI, UCLG, WWF, CDP, RCN Making Cities Resilient 2030 RegionsAdapt
Crosscutting: Finance	Global property and casualty insurance sector has an industry capabilities framework, actively supports project implementation, and institutionalises a longer-term industry approach to climate adaptation	InsuResilience Global Partnership Insurance Development Forum





2. SYSTEMS TRANSFORMATION

2.1. The Opportunity

The 2030 Sector breakthroughs, launched in 2021, by the UN Climate Action Champions alongside members of the Marrakech Partnership and other non-state actor partners, have become a powerful tool in accelerating sector decarbonization. Collectively, they articulated what key actors must do, and by when, to deliver the systems change needed to achieve a resilient, zero carbon world in time. They created a shared vision for all the different players in a system, helping to align their work and increase collaboration to spur more and faster action. We need to see this same action on adaptation and resilience.

Accelerating adaptation action and building a resilient world at pace and scale requires alignment, collaboration and common vision. Incremental changes to gradually adapt to the different climate hazards and recover essential functions within society is no longer sufficient; societies need to rapidly accelerate action creating what the IPCC calls transformative solutions and building Climate Resilient Development in a much more holistic approach. The individual efforts of regions, cities, businesses, investors and communities taking climate action is critical – but racing in their tracks alone will only get us part of the way. We need coordinated action from different players across economic, natural and social systems to achieve a genuine step-change - or a breakthrough - in progress towards adaptation and resilience.

Adaptation and Resilience Breakthroughs happen when multiple sectors and actors move in synchronisation to deploy adaptation solutions and manage climate risks, mutually reinforce sectoral transformations, and enhance innovation on how finance, governance, policy and access to technology and information are delivered. When many of these groups of actors across several sectors see each other working towards a common milestone, their actions and progress mutually reinforce to overcome obstacles, break silos, enhance synergies and create catalytic action.

2.2. Radical Collaboration

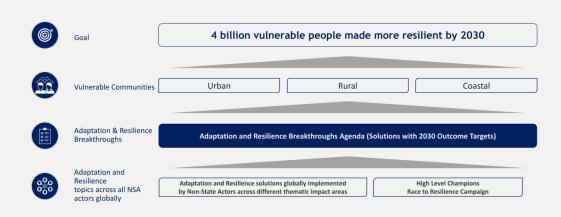
Recognising that Adaptation implementation and Resilience is lagging compared with mitigation, a consolidated action agenda across stakeholders is required. Many different actors across the world are working to deliver adaptation solutions and enhance resilience across several thematic priorities, but with a lack of common and tangible targets. Resilience is needed globally but starts with local adaptation solutions that depend on the specific context of geographies and communities.





Cities, regions, businesses, finance sector, civil society organisations and local communities play a critical role in accelerating adaptation action that builds resilience. NSAs provide financing and insurance, implement adaptation solutions with nature, hybrid or hard engineering, build knowledge and capabilities, collaborate in partnerships, support communities and deliver technology to improve risk management, among others. Non-state actors understand the direct impacts of climate change and recognise the urgent need of taking immediate action. The opportunity lies in the coordinated efforts with national governments. However, as with progress on mitigation, a holistic effort is required to make a real impact. Non-state actors are critical to ensuring that systemic change occurs to reach adaptation goals and enhance resilience.

The UN Climate Change High-Level Champions and members of the Marrakesh Partnership Non-State Actors have framed the Adaptation and Resilience Breakthroughs as the agenda of solutions that bring together the adaptation transformative actions and system level resilience. Breakthroughs define the need and opportunity, and provide specific targets in each system - but with the flexibility for local application. They place people at the centre and are focused on the highest impact solutions that target a large number of the most vulnerable coastal, rural and urban communities by addressing the most pressing climate risk and hazards. The Adaptation and Resilience Breakthroughs consolidate efforts across the Champions and other resilience actors to unite behind clear actionable targets and solutions needed to achieve the Race to Resilience goal of making 4bn vulnerable people more resilient by 2030.



The transition to a climate resilient world will occur through system transformation across sectors and the harmonised response of multiple actors across multiple levels towards common goals. Adaptation and Resilience

Breakthroughs are organised around clear "2030" outcome targets" of adaptation and resilience action that are measurable and attainable which can further mobilise NSAs and facilitate and strengthen their coordination among themselves and in support of state actors efforts to increase resilience.





The goal of the Race to Resilience is ultimately about people: making 4 bn vulnerable people more resilient by 2030. In order to tangibly connect the Adaptation and Resilience Breakthroughs to this target, we are working with NSAs to identify specific impact targets for the number of people to benefit, and where possible, the finance required to better mobilise actors towards each solution.

Breakthroughs cannot happen at the pace and scale required if individual entities work in isolation from one another. The challenges of competition and inertia often deter ambition, where individual actors cannot make the first move without putting themselves at a distinct disadvantage in the near term. Rather, Breakthroughs happen when different actors - across a sector - move in synchronisation to support the transition in a way that ultimately benefits them all, including activating the positive ambition loop between state and non-state actors.

The role of the Climate Champions, working with the Marrakesh Partnership, is to help move the climate action ecosystem towards these breakthroughs. We will do this by radical collaboration across actors to showcase the highest impact initiatives and projects currently in operation, identifying priority areas that require more impactful projects, identifying bottlenecks and helping channel additional funding into initiatives that will form the basis for the breakthroughs.

2.3. Implementation Roadmap

Together with the dynamic and growing MP and Race to Resilience Partners, the Climate Champions will focus on mobilising and aligning the climate action ecosystem to rapidly achieve these Breakthrough targets this decade.

- By COP27 in 2022, we intend to update and add to this initial list of Adaptation and Resilience Breakthroughs
- By COP28 in 2023, we intend to show the progress being catalysed by the Race to Resilience campaign and the Adaptation and Resilience Breakthroughs and how these informed the Global Stocktake process
- By 2030 or sooner, we intend to achieve the goal of the Race to Resilience campaign and the Adaptation and Resilience Breakthroughs - 4 billion people made more resilient

The breakthroughs are at different levels of maturity today - some are supported by a number of effective projects or initiatives, others have less attention and have fewer and more nascent initiatives behind them. A concerted effort is needed to focus attention on those breakthroughs that are at risk and to accelerate action and fund the initiatives required to achieve them.





3. ACHIEVING BREAKTHROUGH OUTCOMES

3.1. Aligning with the Race to Resilience

The Race to Resilience campaign is the race to catalyse a step-change in global ambition for accelerating the investment and implementation of adaptation solutions. The race puts people and nature first in pursuit of a resilient world where we do not just survive climate shocks and stresses, but thrive in spite of them. The Campaign was launched by The High Level Champions (HLC) together with Non State Actors (NSA) in January 2021 at the Climate Adaptation Summit, alongside the State-driven Adaptation Action Coalition. The campaign is the sibling to Race to Zero and it is managed by the Climate Champions Resilience Team.

The campaign has the goal of increasing resilience for four billion people living in vulnerable communities, in collaboration with partner organisations from around the world, while developing tools to support them in their work. It prioritises the climate risks faced by urban, rural and coastal vulnerable communities and elevates the adaptation actions that NSAs are already pursuing towards system transformations that enhance resilience. The partner initiatives have informed the development of the Adaptation and Resilience Breakthroughs.

The campaign brings together the highest impact initiatives or projects currently in operation, highlighting priority areas that require more impactful support, identifying bottlenecks and helping channel additional funding into initiatives that will form the basis for the breakthroughs. The campaign is able to identify gaps, opportunities and progress through its Metrics Framework, which provides a methodology to measure and track increased resilience. The data obtained from the reporting will be used to inform the ongoing work on the breakthroughs and help all partners and the global community to make visible areas where actions should be enhanced and to prioritise where needed the most...

Additionally, the convening power of the campaign is geared towards catalysing high impact actions by NSAs through the Adaptation and Resilience Breakthroughs, further enhancing the ambition loop and contributing to the mobilisation of financial flows for resilience. Breakthroughs define the opportunity for accelerating transformative solutions across system impact areas and informing attainable outcomes targets for each system - but with the flexibility for local application and placing people at the centre. Similar to the Race to Zero Breakthroughs, we encourage partners delivering breakthrough solutions to submit reports on progress, examples and lessons learned on the Adaptation and Resilience Breakthroughs, and to use the Race to Resilience Metrics Framework as a useful tool.





3.2. How to join the Race to Resilience

Partners engage with the R2R Campaign through a 5-step Progression: one step dedicated to apply and be selected for the Campaign, and four steps to advance through the Campaign (also dubbed the 4Ps: Pledge, Plan, Proceed and Publish).

In order to join the Race, partners must:







4. APPENDIX

4.1. Breakthrough target notes

Adaptation and Resilience Breakthrough 2030 Outcome Targets	Target Notes
Climate resilient, sustainable agriculture increases yields by 17% and reduces farm-level GHG emissions by 21%, without expansion of the agricultural frontier.	 WRI's <u>Creating a Sustainable Food Future Report</u>, 2019, outlines the 2030 challenge of nutritiously feeding 10 billion people, on the same amount of land, while reducing farm level emissions in line with Paris Agreement goals The Breakthrough Agenda State of Systems Transition Report, to be launched 16 September 2022, estimates yield increases of 17% and emission reduction requirements of 21%
By 2030, halve the share of food production lost, and halve per capita food waste (relative to 2019).	 The <u>United Nations' Sustainable Development Goal (SDG) 12</u> seeks to "ensure sustainable consumption and production patterns." The third target under this SDG (<u>Target 12.3</u>) calls for cutting in half per capita global food waste at the retail and consumer level, and reducing food losses along production and supply chains (including post-harvest losses) by 2030. See further guidance on SDG 12.3 through <u>Champions 12.3</u>
By 2030 350m ha of land is restored whilst conserving 30% of earth's lands and inland waters, securing indigenous & local communities rights	 New York Declaration of Forests call for global action for forest protection, restoration and sustainable use includes 10 goals such as restoring degraded lands, this is supported by the Bonn Challenge which adds 150m ha of land into restoration by 2020 IPCC & IPBES reports stress the importance of protection of nature. The Campaign for Nature collaborates with partners such as Business for Nature, to promote the 30 x 30 goal to protect 30% of the Planet's Land and Water by 2030 dk
By 2025: Financial institutions eliminate commodity-driven deforestation from portfolios contributing to halting land conversion, with corresponding	 Accountability Framework: a common approach for ethical supply chains in agriculture and forestry, the <u>SBTi FLAG</u> and other scientific efforts support tackling commodity driven deforestation by 2025. The Finance and Deforestation advisory group





interim risk assessment and disclosure, while tapping the USD 354 billion/year opportunity in NBS investment needed by 2030.	 (including Climate Champions) have rallied 35 financial institutions to sign up to a Commitment to Increase investments in NBS and eliminate agricultural commodity-driven deforestation from their portfolios The State of Finance for Nature report finds that approximately USD 113 billion/ year currently flows into nature-based solutions (using 2020 as a base year). The report finds investment ought to at least triple by 2030 if the world is to meet climate change, biodiversity and land degradation targets
1 bn people have better design, construction and access to finance to live in decent, safe homes	 Roof Over Our Heads campaign seeks secure, climate resilient housing that is available, accessible and affordable for 1 Billion urban poor worldwide The Extreme Heat Resilience Alliance aims to provide 500 million people worldwide with heat resilience solutions by 2030 With some overlap between these ambitions of two critical partners, the overall target of 1bn has been selected
Smart & early warning systems reach 3 billion people	 The World Meteorological Association asserts that 100% of people will need coverage from an Early Warning System UN REAP aims to protect 1B more people with EWS by 2025 Assuming linear scaling, this reaches 3bn by 2030
Invest USD 4 billion to secure the future of 15 million hectares of mangroves globally by 2030 through collective action on halting mangrove loss, restoring half of recent losses, doubling protection of mangroves globally and ensuring sustainable long-term finance for all existing mangroves	From analysis by the Global Mangrove Alliance, State of Mangroves, 2021
A diverse set of energy generation sources enable affordable access to electricity for 679 million unconnected people and higher quality access for 1 billion underserved people through climate resilient energy systems	SDG 7 targets universal access to affordable, reliable and modern energy for all by 2030 - but 679 million people will be without access to electricity in 2030 2.8 billion people are without enough reliable power - GEAPP aims to extend clean, productive-use energy to 1 billion underserved people





2.2B people access low-cost, clean vehicles and mobility solutions through the expansion of affordable public and private transport services	C40 in their <u>Future is Public Transport</u> campaign have stated that the proportion of public transport journeys in the world's cities must double in 10 years to bring global emissions down for a 1.5°C world
	An ITF & C40 Joint report has declared that every person living in an urban area should have access to safe, frequent, affordable and accessible public transport within a 10-minute walk from their home
	2.2B people in urban areas with no access to public transport solutions (Estimated based on SDG 11.2 goal and WorldBank share of urban population)
10,000 cities have evidence-based, actionable adaptation plans	 GCA calls for 1,000 Cities to be Resilient by 2030 OECD's Cities in the World 2020 Report estimates 9,000 global cities With population rise to 4bn, cities rise to 10,000