

# Truly Global

A Regional Outlook on the  
2030 Climate Solutions

Marrakech  
Partnership



SAA

SHARAH  
ADAPTATION  
AGENDA



# Foreword

Tobasa, a certified B Corporation based in Brazil, has pioneered an innovative method for meticulously separating each part of the local babassu coconut. It has found a commercial use for every component, ensuring that nothing is wasted and farmers' value from their harvests is maximized. This is one example of how **innovators worldwide are harnessing nature-based solutions to reduce waste, offer low-emissions products to consumers and increase profits**, thus making significant strides towards achieving the 2030 Climate Solutions across the land-use, food and agriculture, industry and energy sectors and creating sustainable livelihoods for communities.

As UN Climate Change High-Level Champions, we are committed to identifying, recognizing and celebrating such stories of large and small businesses, cities, regions, Indigenous Peoples, financial institutions and civil society organizations who are leading the fight against climate change in every part of the world, in line with our Presidencies' efforts to make COPs more inclusive and equitable.

*Truly Global: A Regional Outlook on the 2030 Climate Solutions* focuses on Africa, Asia and Latin America and the Caribbean, providing a platform for some of the leaders driving the delivery of the 2030 Climate Solutions across the Global South and compiling insights and success stories. There are **many great**

**examples of individuals and organizations taking ambitious actions to reduce GHG emissions, increase the resilience of their communities and livelihoods and protect and restore nature**, from African cities' testing of new low-carbon mobility systems to Asian conglomerates' decarbonization of their industrial processes and Indigenous Peoples' use of innovative solutions to protect forests in Latin America and the Caribbean.

**That leadership can and should be an inspiration to others, but it also requires support.** This report candidly speaks of the challenges faced by African, Latin American and Asian stakeholders in delivering this transformative agenda. A lack of financial resources, technological gaps and insufficient skills and capacities in both the public and private sectors are common barriers reported across the Global South, emphasizing that the means of implementation remain a critical factor in achieving the Paris Agreement. Halfway in the critical decade to 2030, we have no time to lose. We should ensure that climate action is appropriately resourced in each region, and that the least developed countries and communities, which are the most vulnerable to climate impacts but contribute marginally to climate change, are not only supported but also empowered.

Among the concrete actions and enablers they recommend to overcome these challenges, long-term ambitious plans, fair and equitable policies and robust and transparent regulatory frameworks stand out as key mechanisms that allow the full ecosystem of climate entrepreneurs to thrive. **The next round of NDCs and NAPs, which are due in the next months, provide an unprecedented opportunity to realize this.** These plans should not only give a clear signal on how countries will credibly tackle climate change, reflecting urgency and ambition in line with 1.5 degrees, but also provide economy-wide blueprints for economic growth and jobs, better health and resilient communities.



**Razan Al Mubarak**  
UN Climate Change High-Level Champion  
COP 28 Presidency United Arab Emirates

African, Asian and Latin American and Caribbean businesses, cities, regions, investors, Indigenous Peoples and civil society organizations have prioritized clean energy, equitable finance and sustainable land-use in their 2030 Climate Solutions. Countries have an opportunity to consider these aspects, better reflect on the evolving needs of their residents and turn ambition into action through collaboration and collective ownership.

**Because only immediate, ambitious, science-based, inclusive and truly global climate action will make our net zero, resilient, nature positive and equitable future possible.**



**Nigar Arpadarai**  
UN Climate Change High-Level Champion  
COP 29 Presidency Azerbaijan

# Executive Summary

**Cities, regions, Indigenous communities, large and small businesses, financial institutions and civil society organizations in the Global South are advancing the 2030 Climate Solutions to make our key systems net zero, climate resilient, nature-positive and just by 2050.**

**Truly Global: A Regional Outlook on the 2030 Climate Solutions**, the second version of the flagship publication by the High-Level Champions and the Marrakech Partnership, adopts **the perspective of non-Party stakeholders** in three regions that traditionally have been underrepresented in global climate action: **Africa, Asia and Latin America and the Caribbean**. This report looks closely at who is delivering this critical agenda across the Global South, the priorities they have set to transform each system, the barriers they face in doing so and the actions they recommend to accelerate system transformation. It makes a particular emphasis on **key innovators, climate entrepreneurs, successful stories and ready-to-invest climate projects** in each region.

**Energy, finance, land-use, human settlements, transport, water, ocean and coastal zones and industry** are the key systems analysed through a regional lens in this report. Each chapter starts with a reminder of the system's Climate Solutions and global targets for 2030, followed by three regional subsections, each addressing one of the regions of focus: Africa, Asia and Latin America and the Caribbean.

Each subsection offers invaluable insights into the **priorities identified by regional stakeholders** and analyses how these priorities compare with current NDCs and NAPs in the region, providing opportunities for implementation or better alignment in the next round of national plans. For example, both African stakeholders and current African NDCs make renewable energy a top priority, suggesting that multi stakeholder implementation is already possible in that region and sector. On the other hand, energy adaptation planning, which has been listed as a priority by Latin American and Caribbean stakeholders, is barely addressed by current NDCs and NAPs in the region, providing a huge opportunity for the next national mitigation and adaptation plans to include the resilience of energy systems.

The **barriers** to delivery of the 2030 Climate Solutions faced by non-Party stakeholders in their regions, and the **actions and enablers recommended** to lift them, are also presented in each subsection in the voices of the people who expressed them. This can inform numerous governments and organizations working on climate change to address these barriers in terms appropriate for the Global South.

Finally, the **organizations who are advancing the 2030 Climate Solutions in each region** are listed, and some are highlighted to share examples of climate leadership and projects that should be supported. This report thus

serves as **a practical guide to climate action in Africa, Asia and Latin America and the Caribbean**, inviting readers to discover these leadership stories and to get in touch and move forward to **make climate action truly global**.



Reuben Pillay / Climate Visuals

# Methodological Note

Last year in Dubai, as countries were concluding the first Global Stocktake of the Paris Agreement with the historic decisions to transition away from fossil fuels, halt deforestation and protect nature, [the Marrakech Partnership](#) under the leadership of the High-Level Champions, published the **2030 Climate Solutions**, a unique, holistic, action-oriented and inclusive roadmap intended **to make energy, transport, industry, urban and natural systems net zero, resilient, nature-positive and equitable by 2050**.

This integrated framework brings together the 2030 frameworks and tools of the High-level Champions, the Marrakech Partnership and the extended network of partners and initiatives (e.g., the [Climate Action Pathways, 2030 Breakthroughs, Breakthrough Agenda, Sharm El-Sheikh Adaptation Agenda](#) and the [Race to Zero](#) and [Race to Resilience](#) campaigns) to form **a comprehensive and coherent roadmap for accelerating climate action through specific real economic and on-the-ground solutions by 2030**.

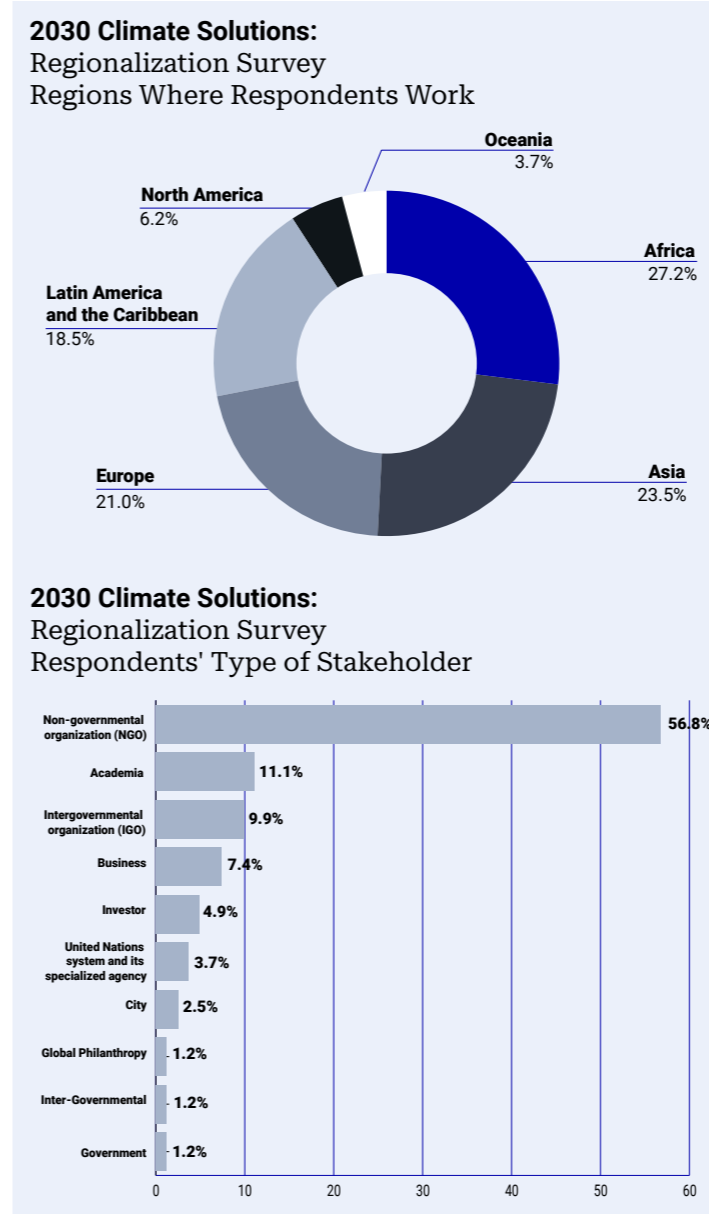
To ensure that the implementation of the 2030 Climate Solutions

1. reflects the contexts and needs of all regions;
2. is effective, inclusive and participatory; and
3. effectively contributes insights and solutions to inform the design of the next round of NDCs,

in 2024 the High-Level Champions and the Marrakech Partnership, in close collaboration with the UNFCCC secretariat and its Regional Collaboration Centres, conducted **a regional consultation on the 2030 Climate Solutions**, with the overarching objective of accelerating action and progress in each region towards the 2030 targets for mitigation and adaptation.

A survey was developed to raise awareness of the 2030 Climate Solutions among regional stakeholders, identify regionally relevant dimensions and deepen connections with the stakeholders leading the regional implementation of the solutions. Respondents were asked to **rank their top five sectoral priorities** among the 2030 Climate Solutions and to give detailed accounts of **barriers, enablers and success stories** in up to two sectors of their choice. Eighty-one responses were collected and analysed quantitatively. Over 200 participants then gathered to discuss and validate the survey's results in three **regional workshops**, which were held virtually for the regions of Latin America and the Caribbean and Asia at the end of August and for Africa alongside the United Nations Economic Commission for Africa's 12th Conference on Climate Change and Development in Abidjan on 31 August. The survey results are complemented by **desk research** conducted by regional and sectoral experts in both the UNFCCC secretariat and the Climate Champions

Team. The demographics of the respondents are captured in the following charts.



Reaffirming the ultimate goal of the 2030 Climate Solutions to serve as a roadmap for policy makers, the UNFCCC Secretariat also conducted a **regional analysis**<sup>1</sup> to identify the regional sectoral priorities included in current NDCs and NAPs that have been submitted in Africa, Asia and Latin America and the Caribbean. This analysis allowed a comparison of the topics included in current national plans with the priorities expressed by regional stakeholders. This enabled the identification of cases with strong alignment, which can provide a solid ground for multi-stakeholder implementation, and cases where stakeholders' priorities are not well reflected in regional plans, which can provide opportunities for alignment in the next round of NDCs and NAPs.

This *Regional Outlook on the 2030 Climate Solutions* captures the results of this regionalization effort.

<sup>1</sup> UNFCCC secretariat. 2023. Nationally determined contributions under the Paris Agreement – Synthesis report by the secretariat. Bonn: UNFCCC secretariat. Available at <https://unfccc.int/documents/632334>

# Acknowledgements

The High-Level Champions warmly thank all people involved in the realization of this report, particularly all the members and partners of the Marrakech Partnership in Africa, Asia and Latin America and the Caribbean who participated in the survey and the validation workshops, the UNFCCC's Global Climate Action, Mitigation, Adaptation Teams and Regional Collaboration Centers, and the Climate Champions Team. This *Regional Outlook* wouldn't exist without you.

# Disclaimer

*Truly Global: A Regional Outlook on the 2030 Climate Solutions* offers insights into the implementation of the 2030 Climate Solutions in Africa, Asia and Latin America and the Caribbean. It is intended to be read in conjunction with other key High-Level Champions and partner publications that present complementary and in-depth analyses of progress in the areas of just and resilient transitions, nature-positive climate action and equitable financing. These publications include the **Breakthrough Agenda report**, the **Sharm Adaptation Agenda Implementation Report**, the **Race to Resilience progress report**, the **RPCP Showcase Report** and the **Yearbook of Climate Action**.

This report comprises contributions from a wide range of partners associated with the Marrakech Partnership, the Race to Resilience, the Sharm El Sheikh Adaptation Agenda, Race to Zero and the 2030 Breakthroughs. Neither the UN Climate Change High-Level Champions nor the UNFCCC and their respective teams, agents, data or other third-party content providers make any representation or warranty, either express or implied, with respect to the report's contents (including its completeness or accuracy) and shall not be held responsible or liable for any actions taken or not taken on the basis of this report, or for any consequences of the use of, or reliance on, the report and its contents.



Shibasish Saha / Climate Visuals Countdown

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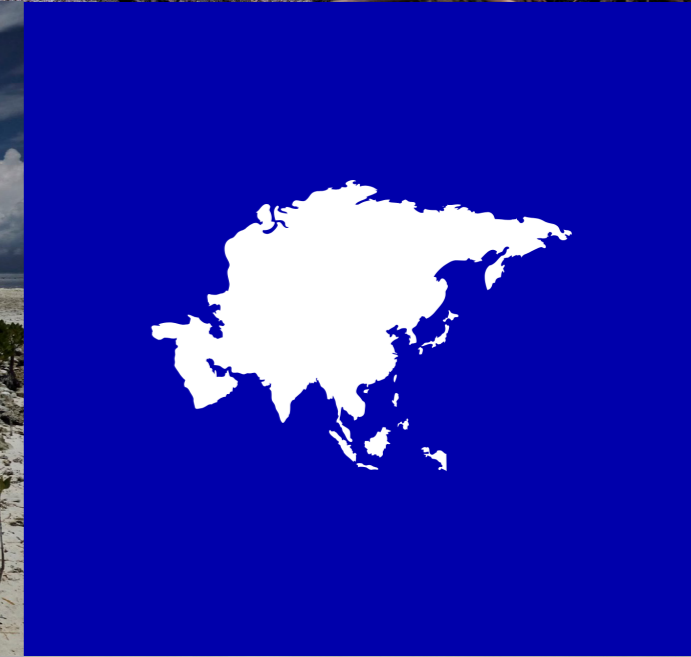
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Anthony Ochieng / Climate Visuals Countdown



Alain Schroeder / Climate Visuals



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# Energy



Energy systems are at the core of mitigation and adaptation efforts due to their strong association with GHG emissions and their increasing exposure to the negative impacts of climate change. The 2030 Climate Solutions for the energy sector aim to enable a just transition away from fossil fuels while increasing the resilience and reliability of energy systems and securing access to clean and affordable energy for all. Non-Party stakeholders are critical to the delivery of just and resilient energy transitions through investment, financing, knowledge creation, advocacy and involvement in energy planning.



| Climate Solution                        | 2030 Global Targets  | Source  |
|---|--|---|
| <b>Clean Power</b>                      | Clean power becomes the most affordable and reliable option for all countries to meet their power needs efficiently by 2030.<br>Solar and wind power make up at least 46%, and all renewables make up at least 68% of global electricity generation by 2030.<br>Installed capacity for renewable power generation is tripled in 2030 vs 2022 values.   | Breakthrough Agenda;<br>2030 Breakthroughs              |
| <b>Electrification</b>                  | The share of electricity over total final energy consumption reaches 30% by 2030 from the current 20%.   | 2030 Breakthrough                                       |
| <b>Power Pool Integration</b>           | Regional power pool integration is scaled up to mitigate the potential negative impacts on supply and demand of hydropower due to increased precipitation variability, allowing for a growing complementarity of renewables sources<br>Regional power pool integration is scaled up to mitigate the potential negative impacts on supply and demand of hydropower due to increased precipitation variability, allowing for a growing complementarity of renewables sources | Sharm El Sheikh Adaptation Agenda                       |
| <b>Grids and Battery Storage</b>        | Global grid investment doubled by 2030 to over USD 600 billion per year, including 359 GW of battery storage capacity.   | Sharm El Sheikh Adaptation Agenda                       |
| <b>Justice and Affordability</b>        | Affordable, reliable, sustainable, and modern energy access to electricity for 675 million unconnected people and higher quality access for 1 billion underserved people through climate resilient energy systems.   | Sharm El Sheikh Adaptation Agenda                       |
| <b>Clean Cooking</b>                    | 2.4 billion people with access to clean cooking through at least USD 10 billion in innovative finance each year for clean cooking action worldwide   | 2030 Breakthrough;<br>Sharm El Sheikh Adaptation Agenda |
| <b>Cooling</b>                          | Support grid infrastructure resilience by reducing electricity consumption for cooling by approximately 30% (1900 TWh per year) by 2030.   | Sharm El Sheikh Adaptation Agenda                       |
| <b>Green Hydrogen</b>                   | By 2030, at least ~430GW of operational electrolyzer capacity (cumulative) is required to align with a 1.5°C pathway. This corresponds to at least ~50Mt of renewables-based hydrogen deployed and operational by 2030.<br>Affordable renewable and low-carbon hydrogen is globally available by 2030.   | Breakthrough Agenda;<br>2030 Breakthrough               |
| <b>Oil &amp; Gas</b>                    | Oil: 40% of oil production has been reduced by 2030, on a 2019 baseline<br>Gas: Reduce the share of unabated gas in electricity generation to 17% by 2030  | 2030 Breakthrough                                       |
| <b>Oil &amp; Gas: Methane reduction</b> | Oil & Gas Methane emissions are 75% lower than 2020 levels by 2030   | 2030 Breakthrough                                       |
| <b>Energy Adaptation Planning</b>       | Adaptation of energy generation, transmission and distribution infrastructure is mainstreamed into national energy planning and scenarios at national and sub-national levels.   | Sharm El Sheikh Adaptation Agenda                       |

# 1.1 Energy Solutions to increase Access, Affordability and Competitiveness in Africa

African stakeholders have identified **Clean power, Electrification** and **Justice and Affordability** as their top energy solutions, highlighting opportunities for development with clear synergies between mitigation and adaptation priorities and increased access to clean energy and clean cooking technologies. Similarly, the regional analysis of sectoral priorities of NDCs, conducted by the UNFCCC secretariat, identified renewable power generation as a priority in 96% of NDCs submitted in Africa, followed by transmission and distribution grid improvements (55% of NDCs) and enhanced energy efficiency (36% of NDCs). Additionally, 65% of the NAPs submitted in this region

have identified energy resilience as a priority sector, positioning it in third place behind water resources (94% of NAPs) and agriculture (88% of NAPs). This strong alignment between stakeholders' energy priorities and national mitigation and adaptation plans in Africa suggests that there are grounds for effective multi-stakeholder implementation of current and future NDCs and NAPs.

Additionally, the survey respondents in Africa listed the following barriers to and enablers of the delivery of their energy priorities.

## Barriers:

- Limited financial resources.
- Perceived ineffective policies and political instability increase risk and, in turn, the capital costs of energy project development and enforcement.
- Lack of adequate project preparation facilities and insufficient technology transfer or expertise, education and training in energy technologies.
- Major challenges to energy systems posed by the impacts of climate change, underscoring the need for increased resilience.

## Enablers and Recommended Actions:

- Develop catalytic financial interventions, including exploration facilities, project preparation support, early-stage investment mechanisms, project-level investments, capital market instruments and securitisation.
- Create incentives for utility-scale and distributed power generation, financing for electricity projects and deployment at scale of clean cooking technologies and fuels; develop and refine regulations to reduce methane emissions in the oil and gas sector.
- Foster energy-efficient appliances and align energy planning with clean cooking initiatives, including policy and regulatory targets enforced by compliance measures.
- Build capacity and expand the training of renewable energy solutions technicians.

## Leadership Story

### Africa KOKO

KOKO offers households a complete transition from cooking with biomass to cooking with liquid bioethanol, a healthy WHO-highest ranked cooking fuel. It uses technology and carbon markets to offer accessible fuel to customers at an affordable price. This reduces respiratory issues, carbon emissions, and deforestation and creates cost savings.

## Regional Platform for Climate Projects

### Chad ZIZ Energie

ZIZ Energie is an energy platform in Chad specialized in rural/urban electrification deploying "metrogrids" to cities of 20,000 or more currently without electricity (~50-100 cities) with 90%+ solar penetration. ZIZ Energie develops, finances, builds and operates metro-grids (hybrid plant + electric urban network for cities of more than 25,000 inhabitants). ZIZ currently operates in 5 secondary cities in Chad where it plans to hybridize its power plants.

## Organizations or initiatives advancing the Energy 2030 Climate Solutions in Africa

Africa Climate Foundation (ACF)  
 Africa Development Bank Group (AfDB)  
 Africa E-Mobility Alliance (AfEMA)  
 Africa EU Energy Partnership (AEEP)  
 Africa Mini Grid Developers Association (AMDA)  
 Africa Sustainable Energy Association  
 Africa Union Development Agency (AUDA-NEPAD)  
 Africa Energy Commission (AFREC)  
 African Development Bank  
 C40 Cities  
 Clean Cooking Alliance  
 ClimateWorks Foundation  
 East African Centre of Excellence for Renewable Energy and Efficiency  
 ECREEE - Sustainable Energy Fund Centre for Renewable Energy and Energy Efficiency (ECREEE)  
 Financial Sector Deepening Africa (FSDA)  
 GEAPP  
 Global Association for the Off-Grid  
 Solar Energy Industry (GOGLA)

Global Covenant of Mayors for Climate and Energy (GCoM)  
 Global Wind Energy Council (GWEC)  
 ICLEI- Local Governments for Sustainability  
 IRESEN - Institute Research Energy Solar And Energy Nouvelles (IRESEN)  
 KawiSafi Ventures  
 KOKO Networks  
 Milele Energy  
 Modern Energy Cooking Services (MECS)  
 OFGEN Africa  
 PanAfrican Climate Justice Alliance (PACJA)  
 PowerGen Renewable Energy  
 ReEnergy Africa  
 RES4Africa - Renewable Energy Solutions in Africa,  
 Sustainable Energy for All (SEforALL)  
 West African Power Pool (WAPP)  
 World Resource Institute

## 1.2. Energy Solutions to Power Innovation and Industry in Asia

Asian stakeholders have identified **Clean Power**, **Justice and Affordability**, and **Energy Adaptation Planning** as their top energy solutions, highlighting the need to deploy solutions based on renewable sources to decarbonize energy systems while fostering just energy transitions and increasing the resilience of energy systems to the effects of climate change. Consistent with these priorities, UNFCCC regional analysis have shown that renewable power generation is a priority in 93% of the NDCs submitted in Asia, followed by enhanced energy efficiency (48% of NDCs) and transmission and distribution grid improvements

(45% of NDCs). Additionally, nearly half (46%) of the NAPs submitted in this region include energy resilience as a priority sector. This strong alignment between stakeholders' energy priorities and national mitigation and adaptation plans in Asia suggests a basis for effective multi-stakeholder implementation of current and future NDCs and NAPs.

Survey respondents in Asia listed the following barriers to and enablers of the delivery of their energy priorities:

### Barriers:

- Perceptions that local renewable projects are not cost-effective, which impact investments in solar PV and offshore wind technologies due to the need for high initial investments; insufficient funding dedicated to green energy transition.
- Dense urban areas that limit spaces for large-scale renewable installations, and complex bureaucratic, logistical and technical challenges to the development of renewable energy projects.
- Lack of awareness of the risks and opportunities of the transition, including carbon finance.
- Contextual barriers such as aging infrastructure, natural disasters, poverty and inequality.

### Enablers and Recommended Actions:

- Enact supportive policies and offer grants or low-interest loans for renewable energy projects and grid infrastructure upgrades.
- Strengthen regulations by enhancing energy efficiency requirements, integrating renewables in new buildings and streamlining approval processes for renewable projects, while investing in grid infrastructure to support these advancements.
- Boost public awareness of the benefits of renewable energy, foster government-private sector partnerships for project co-development and invest in advanced technologies, energy storage solutions and smart grid systems.
- Develop policies to protect low-income households during energy transitions and implement monitoring systems to track progress.

### Leadership Stories

#### Qatar Msheireb Downtown Doha

Msheireb Downtown Doha is a pioneering urban regeneration project in Qatar that employs strategically oriented streets, passive cooling techniques and solar shading to reduce temperatures by up to 10 °C. Using the largest district cooling plant in the world, it has cut energy consumption by 30% compared with conventional methods, demonstrating leadership in energy resilience by integrating environmental considerations into urban design and thus ensuring comfortable and liveable spaces in the face of rising temperatures.

#### India Jivoule

Jivoule, a cleantech biofuel start-up and signatory of CII's Climate Action Charter, is pioneering innovative technologies to produce sustainable biofuels. By providing solutions like Biofuels (Bio-CNG), which leverages technology based on the scientific processing of wet and biodegradable wastes, Jivoule aims to help businesses to access low-carbon energy and promote sustainability-enabled outcomes.



### Organizations or initiatives advancing the Energy 2030 Climate Solutions in Asia

C40 Cities  
Clean Cooking Alliance  
Climate Group EP100  
EV100  
Global Covenant of Mayors for Climate and Energy (GCoM)  
ICLEI-Local Governments for Sustainability  
IRENA  
ReNew Power  
Solutions for Our Climate (SFOC)  
Climate Integrate  
Energy Foundation China  
WWF-Vietnam  
WRI India

# 1.3 Energy Solutions to Unleash the Potential of Latin America and the Caribbean as a Powerhouse of Global Renewables

**Clean power, Justice and Affordability** and **Energy Adaptation Planning** were identified as their top three energy solutions by Latin American and Caribbean stakeholders. The successful achievement of these priority solutions requires the deployment of transmission infrastructure to enable an increase in renewable power generation capacity, enhancement of grids and capacity planning that includes embedded resilience efforts and stakeholder participation; it also requires electrification and enhanced adaptation to be complemented by the sustainable use of bioenergy and other renewable energy sources.

The regional analysis of sectoral priorities in NDCs, conducted by the UNFCCC secretariat, identified renewable power generation

as a priority in 79% of NDCs submitted in Latin America and the Caribbean, followed by enhanced energy efficiency improvements (36% of NDCs). In contrast with other regions, only 27% of the NAPs submitted in this region identified energy resilience as a priority sector. These findings highlight a significant opportunity to make the resilience of energy systems a key topic in the next round of NDCs and NAPs in Latin America and the Caribbean.

Survey respondents in Latin America and the Caribbean identified the following barriers to and enablers of the delivery of their energy priorities.

## Barriers:

- In some countries, fossil gas remains a prevalent and cost-effective option for heating, and it coexists with inadequate or insufficient insulation in buildings, which reduces the efficiency of heating and cooling.
- Lack of adequate regulations and financial incentives for energy efficiency, as well as a lack of enabling conditions and infrastructure.
- Lack of awareness regarding the challenges and opportunities emerging from energy transitions.
- Insufficient integration of climate change considerations into national planning instruments.

## Enablers and Recommended Actions:

- Increase awareness regarding the challenges and opportunities emerging from energy transitions to support climate mitigation and adaptation efforts and investment in energy systems.
- Incorporate a broad and diverse range of social and environmental perspectives to ensure more equitable solutions and the engagement of communities in energy efficiency and energy planning, including demand management.
- Revise and enforce regulations related to energy efficiency, and streamline permitting processes to accelerate renewable energy deployment and enhance the financial mechanisms that support clean energy technologies.
- Embed energy system resilience into energy planning, and enhance regional interconnections and power pool integration to address variability in hydro availability and renewable energy sources.



## Leadership Stories

### Latin America and the Caribbean **Renewables in Latin America and the Caribbean**

The Renewables in Latin America and the Caribbean (RELAC) initiative has brought together 15 countries to commit to a regional power generation mix of at least 80% renewables by 2030 (compared to 58.5% in 2019) and take action accordingly. IDB has invested over USD 1 billion in the region as part of this initiative.

### La Plata, Rosario and Avellaneda, Argentina **100% Renewables Cities and Regions Roadmap**

Under the 100% Renewables Cities and Regions Roadmap, La Plata, Rosario and Avellaneda are localizing their energy transitions to decrease emissions while promoting growth, employment and new technologies. In 2024, Avellaneda unveiled a roadmap towards 100% renewable energy by 2050 and focused on bioenergy to meet electricity and heating demands.

## Organizations or initiatives advancing the Energy 2030 Climate Solutions in Latin America and the Caribbean:

ADELAT  
C40 Cities  
CAF  
Caribbean Climate Smart Accelerator  
Global Covenant of Mayors for Climate and Energy (GCoM)  
Global Methane Hub  
H2LAC  
HIF Global  
Hydrogen Technologies Unit of the Catholic University of Chile

ICLEI-Local Governments for Sustainability  
IDB  
Instituto Clima e Sociedade  
Instituto E+ Transição Energética  
Instituto Talanoa  
OLADE  
The Brazilian Association for Hydrogen (ABH2)  
The World Bank

# Finance



Finance is a critical enabler of solutions towards 2030<sup>2</sup>, yet, current financial system needs urgent reform<sup>3</sup>. The key priorities of a fit-for-purpose financial system include tackling debt constraints, the financial capacities of MDBs, mobilization of domestic resources, concessional finance and mobilization of private finance. Private financiers are calling for investable NDCs that set forth sectoral and investment needs together with supporting policy and regulatory

frameworks<sup>4</sup>. In addition, priority remains to enhance climate finance accessibility by local communities, especially for adaptation, along key enablers such as risk information, equity, inclusion and governance. Near-term opportunities for closer public–private collaborations that work towards the 2030 Climate Solutions include de-risking, transition finance, adaptation and nature finance.

<sup>2</sup> The Independent High-level Expert Group on Climate Finance (IHLEG) concluded that around USD 2.4 trillion in annual investments would be necessary in emerging markets and developing countries (EMDCs) outside China by 2030; the investments should be shared across various priorities: just energy transition, adaptation and resilience, loss and damage and conservation and restoration of nature. Source: <https://www.lse.ac.uk/granthaminstitute/publication/a-climate-finance-framework-decisive-action-to-deliver-on-the-paris-agreement-summary/>

<sup>3</sup> <https://www.climatepolicyinitiative.org/climate-finance-reform-compass/>

<sup>4</sup> <https://www.iigcc.org/resources/making-ndcs-investable-the-investor-perspective>

| Climate Solution                                     | 2030 Global Targets   | Source   |
|--|---|--|
| <b>Public Finance Adaptation</b>                     | Public finance actors increase provision of climate finance and allocate 50% of climate funds to adaptation and resilience.   | Sharm El Sheikh Adaptation Agenda                              |
| <b>Private Finance Adaptation</b>                    | Private sector integrates physical climate risks into investment decisions and continues to innovate mechanisms for financing adaptation and resilience so as to enable the mobilization of the USD 215-387 billion that will be needed annually across public and private sources. | Sharm El Sheikh Adaptation Agenda                              |
| <b>Insurance Finance Adaptation</b>                  | Global property and casualty insurance sector has an industry capabilities framework, actively supports project implementation, and institutionalizes a longer-term industry approach to climate adaptation.  | Sharm El Sheikh Adaptation Agenda                              |
| <b>MDB Finance Adaptation</b>                        | Multilateral Development Banks and Development Partners support scaling-up private finance by providing dedicated resources to support credit enhancement and de-risking of adaptation investments.   | Sharm El Sheikh Adaptation Agenda                              |
| <b>Finance for Net Zero</b>                          | Around USD 3.5 trillion annually of capital investment will be needed on average between now and 2050 to build a net-zero global economy.   | IEA  |
| <b>Private Finance for Net Zero</b>                  | FIs should support the global economy reducing their emissions by half by 2030 through their financing activities. This includes supporting sector transition to net zero.  | Race to Zero   |
| <b>Finance for Developing Countries</b>              | To meet SDGs and Paris Agreement goals, USD 2.4 trillion is needed in EMDCs (other than China) by 2030 for climate-related investments, a four-fold increase from current levels.   | Independent High-level Expert Group on Climate Finance (IHLEG) |
| <b>MDB Financing for Green Transition</b>            | USD 250-300 billion per year is needed by 2030 from MDBs and other development finance to meet the green transition targets.  | IHLEG; G20 Expert Group  |
| <b>Concessional Finance for Developing Countries</b> | Concessional financing of USD 150-USD 200 billion annually will be needed by 2030 (more than 4 times existing levels) to finance adaptation and build resilience, address loss and damage, restore nature and support a just transition in the early phase out of coal.             | IHLEG  |

## 2.1. A Finance Agenda for Africa

Although Africa offers a wealth of investment opportunities, risk perception and debt burdens pose major challenges to financial access. Increases in MDB finance and concessional finance and advances in domestic resource mobilization and carbon markets are systemic hurdles that need to be overcome. De-risking solutions and capacity-building will be key factors in granting project developers access to financing and in enabling financial institutions and policymakers in the region to collaborate more closely to scale finance.

Of the 53 African countries that submitted Nationally Determined Contributions (NDCs), 51 provided costs projections, estimating that implementing Africa's

NDCs will require between USD 2.5 - 3 trillion between 2020 and 2030<sup>5</sup>. Despite Africa's high vulnerability to climate change, only 24% of the total climate finance needed is allocated to adaptation. Furthermore, the role of the private sector, which holds significant potential to meet these financial needs, is seldom mentioned in the NDCs.

**Finance for Developing Countries, Concessional Finance for Developing Countries** and **MDB Financing for Green Transition** were identified as the top three finance solutions by African stakeholders. The survey respondents also listed the following barriers to and enablers of the delivery of their finance priorities:

### Barriers:

- Lack of available funding.
- Low capacity of regional financial institutions.
- High cost of capital in the region.

### Enablers and Recommended Actions:

- Reform the international financial system to make it work better for developing countries.
- De-risk and mobilize private finance domestically and internationally.
- Operationalize carbon markets with integrity, using carbon credits to make smaller climate projects more economically viable.
- Support the capacity-building of regional financial institutions through a variety of measures such as, for example, fiscal transfers, closer public-private collaboration and practical tools and guidance.

<sup>5</sup> 2022, CPI, [State of Climate Finance of Africa](#)  
<sup>6</sup> 2023, UNECA, [Climate finance: nearly US\\$3 trillion needed to implement Africa's NDC](#)

### Leadership Stories

#### Africa Africa Credit Rating Resource Platform

The [Africa Credit Rating Resource Platform](#) developed by UNDP and AfriCatalyst aims to support African countries and stakeholders improve their credit ratings, by having a one-stop-shop for data, methodological information, and research on credit ratings, to unlock fair and quality capital from both public and private sources.

#### Africa Africa Carbon Markets Initiative

The Africa Carbon Markets Initiative (ACMI), launched at COP 27, has designed a 13-point roadmap to develop carbon market infrastructure across Africa. Since its launch, it has secured an advance market commitment to issue African credit of USD 440 million, plus USD 200 million in de-risking financing. Currently, ACMI is focusing on capacity-building for the expansion of the African MRV and VVB space and is rolling out training for local auditors and lawyers. This work has advanced the regulatory and policy landscape, leading to the creation of an enabling landscape necessary for an increased flow of climate finance.



### Organizations or initiatives advancing the Finance 2030 Climate Solutions in Africa

- |  |                         |
|--|-------------------------|
| AECID                                      | FMDV                    |
| AfDB                                       | GFANZ Africa            |
| AfriCatalyst                               | GIZ                     |
| Alliance of Sub-national Development Banks | Heir Holdings           |
| DBSA                                       | IDRC                    |
| Dhamana Capital                            | NCBA Bank               |
| Ecobank                                    | Southbridge Investments |
| Equity Bank                                | SwedBio                 |
| FCDO                                       | World Bank              |
| FSDA Africa                                |                         |

## 2.2. Financing Asia's Transition

Transitioning from polluting fossil fuels to cleaner air and renewable energy sources is a key challenge for the region. Tackling debt constraints and enhancing policies and regulations are key to enabling finance to flow, as well as de-risking. Finance for climate and nature challenges are inextricably linked; adaptation to the physical impacts of climate changes is both a material risk and an opportunity requiring attention from policymakers and financial institutions.

Asia requires significant investments, approximately USD 3 trillion by 2030, to meet its Nationally Determined Contributions (NDCs) for both mitigation and adaptation. Southeast Asia alone faces a USD 1 trillion climate finance gap for renewable energy,

infrastructure, and adaptation. Additionally, the annual adaptation finance gap in Asia is projected to be USD 70-80 billion by 2030. Many Asian countries, particularly least developed and small island states, rely on international climate finance, with over 45% of their NDC implementation depending on external support.

**Finance for Developing Countries, Finance for Adaptation** and **Finance for Net Zero** were identified as the top three finance solutions by Asian stakeholders. The survey respondents also listed the following barriers to and enablers of the achievement of their finance priorities:

### Barriers:

- Issues of debt and debt sustainability.
- Policy and regulation gaps.
- Insufficient institutional capacity to manage and oversee adaptation finance initiatives.
- Intensification of climate change, pollution and loss of nature, posing great challenges for Asian countries.

### Enablers and Recommended Actions:

- Increase the availability of and access to concessional finance, align MDB policies with national priorities and provide Indigenous Peoples with direct access to finance.
- Promote innovative financing mechanisms, such as debt-for-climate swaps, to enhance debt sustainability.
- Build institutional capacity in developing economies.
- Develop robust risk assessment frameworks and provide guarantees or insurance to de-risk green transition and adaptation projects.

<sup>7</sup> 2023, ADB, [Asia in the Global Transition to Net Zero: Asian Development Outlook 2023 Thematic Report](#).

<sup>8</sup> 2021, ADB, [Funding green recovery in Southeast Asia](#)

<sup>9</sup> 2022, UNEP, [Adaptation Gap Report](#)

<sup>10</sup> 2023, UNDP, [The State of Climate Ambition: Snapshots for Least Developed Countries \(LDCs\) and Small Island Developing States \(SIDS\)](#)

### Leadership Stories

#### Asia Financial Sector Deforestation Action

The Financial Sector Deforestation Action (FSDA) brings together 33 financial institutions whose best efforts are aimed at eliminating agricultural commodity-driven deforestation risks in their investment and lending portfolios and increasing investments in nature-based solutions by 2025. It includes leading financial institutions from Asia such as Sumitomo Mitsui Trust Asset Management.

#### Philippines Institute for Climate and Sustainable Cities

The Institute for Climate and Sustainable Cities has been leading work on climate adaptation finance in the Philippines by leading the crafting and passage into law of the People's Survival Fund in 2012 and the Adaptation Finance Accountability Initiative (AFAI), and by supporting the submission of the first locally led proposal to the Green Climate Fund by the municipalities from Eastern Samar, the Bantayan Islands and Palawan.



### Organizations or initiatives advancing the Finance 2030 Climate Solutions in Asia

AFD  
Climate Bonds Initiative  
Climate Policy Initiative  
GFANZ Asia-Pacific Network  
Green Climate Fund  
IFC  
ODI  
Temasek  
WTW



## 2.3. Financing Adaptation in Latin America and the Caribbean

The adaptation finance gap has grown significantly for developing countries, and some of the highest adaptation costs for river flood protection, infrastructure and coastal protection are now found in Latin America and the Caribbean. Least Developed Countries and Small Island Developing States have faced increases in these costs as a percentage of their GDP. This area is ripe for public and MDB finance and closer public–private collaboration to scale adaptation finance. The focus areas for collaboration include technical assistance and financial support for earlier-stage projects, de-risking (including for currency risk) and supportive policy and regulatory frameworks.

Latin American and Caribbean countries face major climate finance challenges in meeting their Nationally Determined Contributions (NDCs). They need between USD 215-284 billion annually from 2023 to 2030 to support their low-carbon,

climate-resilient transition. However, actual climate finance flows are significantly lower, making up just 4% of global climate finance—about USD 52 billion in 2021-2022. The region is particularly underfunded in adaptation, receiving only USD 6.1 billion out of the estimated \$87 billion needed annually to build resilience.

Latin American and Caribbean stakeholders selected **Public Finance for Adaptation, Finance for Developing Countries** and **MDB Finance for Adaptation** as their top three finance solutions, reflecting the high vulnerability of the region to climate impacts and the need for public finance to catalyse private investments in adaptation and mitigation plans.

Survey respondents also listed the following barriers to and enablers of the delivery of their finance priorities:

### Barriers:

- Complex application processes required to access green financing are a huge barrier at the small subnational and local levels and for early-stage project owners.
- Insufficient platforms for matching and connecting financiers with project owners make it difficult for these groups to find each other easily.
- Economic and market volatility, such as fluctuations of interest rates, exchange rates and commodity prices, which impact the availability and attractiveness of green financing.
- Inconsistent and unclear regulatory and policy frameworks that create uncertainty for investors.

### Enablers and Recommended Actions:

- Streamline the application processes for green financing, including simplified and standardized processes, as well as technical assistance and resources to support small or early-stage projects.
- Establish clear and enabling policy and regulatory frameworks and fiscal incentives to support green financing and provide investors with long-term certainty.
- Facilitate access to upfront capital via channels such as blended finance models, innovative finance mechanisms and guarantee mechanisms to reduce the financial risks faced by investors and enhance credit worthiness for green projects, and strengthen monitoring and reporting mechanisms to ensure transparency in the use of climate finance and its environmental and social impacts.
- Increase the share of finance available for subnational level projects.
- Promote green energy market ecosystems and mechanisms for technology transfer and climate financing, especially for low-carbon sectors.

### Leadership Stories

#### Latin America and the Caribbean **IDB CLIMA**

**IDB CLIMA** is a pilot programme that rewards countries that invest in the capacities needed to access concessional financing from thematic and green debt markets at a scale compatible with national nature and climate commitments. It provides a 5% rebate on financing costs upon the achievement and independent verification of KPIs.

#### Latin America and the Caribbean **The Lab**

**The Lab** is an investor-led, public–private initiative that accelerates innovative, well-designed, early-stage climate finance solutions and instruments. It has launched 68 instruments to tackle barriers in critical sectors and regions and mobilized USD 4 billion for climate action in emerging economies. Of this, its network and private investors invested USD 1.3 billion and USD 1.6 billion, respectively.

#### Organizations or initiatives advancing the Finance 2030 Climate Solutions in Latin America and the Caribbean:

|                     |                      |
|---------------------|----------------------|
| BNDES               | GFANZ                |
| CAF                 | GFLAC                |
| Capital for Climate | IDB                  |
| CFA                 | IFACC                |
| CLG                 | JGP Crédito          |
| CPI                 | KfW Development Bank |
| Febraban            | PRI                  |
| FAMA Recapital      | UNEPFI               |
| GCF                 | WRI                  |
| GEF                 |                      |

<sup>11</sup> <https://www.unep.org/resources/adaptation-gap-report-2023>

<sup>12</sup> 2023, ECLAC, *Economics of Climate Change in LAC*

<sup>13</sup> 2024, *Climate Finance Lab, LAC a key region for climate action lags on finance*

# Land-Use



Land use is responsible for nearly 23% of global GHG emissions<sup>14</sup>, making it a critical factor in climate adaptation and mitigation efforts. Effective land management, combined with restoration and conservation actions, could offset up to 30% of global emissions and thus offers a powerful tool in the fight against climate change. The 2030 Climate Solutions for Land Use aim to elevate the impact of non-State actors who restore degraded lands and protect forests, while ensuring strong support for local communities. This will enhance the integrity and quality of restoration and protection actions, drive meaningful progress in climate resilience and stimulate nature-positive land systems.

<sup>14</sup> [https://www.ipcc.ch/site/assets/uploads/sites/4/2020/08/05\\_Chapter-2-V3.pdf](https://www.ipcc.ch/site/assets/uploads/sites/4/2020/08/05_Chapter-2-V3.pdf)

| Climate Solution                                     | 2030 Global Targets   | Source  |
|--|---|---|
| <b>Nature-Based Solutions for Mitigation</b>         | <p>More than 10Gt CO2e mitigated per year through nature-based solutions by 2030, including the protection (45Mha), sustainable management (2BHa) and restoration (350Mha) of land and demand side food system action.</p> <p>By 2030: secure indigenous and local community rights, protect 45Mha, restore 350Mha of degraded land and sustainably manage forests and other terrestrial biomes.</p>  | 2030 Breakthrough   |
| <b>Resilient Natural Landscapes</b>                  | <p>Protection of 30% of the world's lands and inland waters, 2 billion hectares sustainable management and 350 million hectares restoration of land securing legal Indigenous and local communities with use of nature-based solutions to deliver the integrity of natural ecosystems for climate, water, food, health and other biodiversity life supporting roles</p>   | Sharm El Sheikh Adaptation Agenda                         |
| <b>Halting Deforestation and Investing in Nature</b> | <p>Financial institutions contribute to halting land conversion by eliminating commodity-driven deforestation from portfolios, and triple investment in Nature-based Solutions, to reach USD 484 billion/year needed by 2030.</p>   | 2030 Breakthrough   |
| <b>Sustainable and Resilient Agriculture</b>         | <p>By 2030: climate-resilient, sustainable agriculture is the most attractive and widely adopted option for farmers everywhere and 2BHa of land is sustainably managed.</p> <p>50% of food globally is produced through sustainable agriculture practices (including agroecological and regenerative approaches), without expansion of the agricultural frontier into pristine ecosystems, to deliver for people, nature and climate.</p> <p>Advance a just and inclusive food systems transition, ensuring equitable and resilient livelihoods and meaningfully engaging all relevant stakeholders, and especially smallholders, women, youth and Indigenous Peoples, in relevant plans, processes and finances that affect them, with emphasis on supporting their efforts to secure land and resource tenure rights, as well as boosting local markets for local consumption</p> | Breakthrough Agenda;<br>Sharm El Sheikh Adaptation Agenda |
| <b>Healthy and Sustainable Food for All</b>          | <p>Demand-side food system action, including a culturally appropriate 40% global shift to the 'Planetary Health Diet' and halving per capita food waste.</p> <p>Adoption of healthy, locally-appropriate, and sustainable diets in line with global goals, respecting socio-cultural sensitivities and geographic variations. This includes increasing the global consumption per capita of fruits, vegetables, seeds, nuts, and legumes by 1.5x, while also significantly increasing the share of alternative plant-based proteins in the meat and seafood markets.</p> <p>By 2030, end hunger and climate-induced malnutrition in all its forms, in particular for the poorest and most vulnerable, including infants, through access to safe, nutritious and sufficient food all year round.</p>   | 2030 Breakthrough;<br>Sharm El Sheikh Adaptation Agenda   |
| <b>Reducing Food Loss and Waste</b>                  | <p>Halve global food waste and food loss per capita (relative to 2019).</p>   | Sharm El Sheikh Adaptation Agenda;<br>2030 Breakthrough   |
| <b>Financing the Food Systems Transformation</b>     | <p>Scale and re-orient finance flows from public and private sources towards resilient, inclusive and sustainable food systems, increasing direct access for small-scale family farmers, women, youth, and Indigenous Peoples, aligned with climate risk-informed food policies and plans.</p>  | Sharm El Sheikh Adaptation Agenda                         |

## 3.1 Africa's Land Systems: Balancing Human Needs and Climate Demands

**Sustainable and Resilient Agriculture, Nature-Based Solutions for Mitigation, and Halting Deforestation and Investing in Nature**, were identified as the top three land-use priorities in Africa, highlighting the need to implement sustainable land actions that balance the supply–demand needs of communities with climate goals by utilizing nature-based solutions and community-driven approaches. A regional analysis conducted by the UNFCCC on sectoral priorities within NDCs and NAPs from Africa revealed a strong alignment with these priorities. Afforestation, reforestation and revegetation are featured in 81%

of NDC submissions, while reduced deforestation and forest degradation are highlighted in 58% of submissions. Similarly, the analysis of NAPs identified agriculture as a priority in 88% of submissions, while the forest sector is identified in 59% of submissions from the region.

Survey respondents in Africa listed the following barriers to and enablers of the delivery of their land-use priorities:

### Barriers:

- Policy gaps in land management and conservation, coupled with corruption and a poor understanding of restoration methodologies, hinder progress.
- Difficulty in securing land rights for indigenous communities limits effective their participation in restoration and conservation efforts.
- Budget limitations and challenges with aggregating bankable projects make land restoration efforts too small or under-resourced to receive funding.
- Lack of expertise in and capacity for ecological restoration and sustainable land management practices hampers large-scale implementation.

### Enablers and Recommended Actions:

- Strengthening community participation and securing indigenous land rights fosters ownership and enhances sustainable land management practices.
- Innovative financing mechanisms such as public–private partnerships attract investments in land restoration and sustainable agriculture initiatives.
- Targeted training, local digital solutions and infrastructure improvements, such as irrigation, boost agriculture and food security.
- Urban planning, nanotechnology and renewable energy solutions address urbanization, reduce emissions and support sustainable land use practices.

### Leadership Story

#### Sénégal Réserve Naturelle Communautaire de Dindéfélo

The Réserve Naturelle Communautaire de Dindéfélo (Sénégal) is a Community Nature Reserve that delineates zones for human habitation, agriculture and wildlife, effectively preserving biodiversity, protecting chimpanzees, conducting reforestation and mitigating bushfires. This beacon of community-driven conservation demonstrates the transformative potential of local empowerment to safeguard natural habitats for future generations.

### Regional Platform for Climate Projects

#### Kenya Safi Organics

Safi Organics converts biomass waste into carbon-negative fertilizers that have boosted the yields of 3 million Kenyan farmers by 30% and their incomes by 50%. By 2030, its 15 production plants will create approximately 120,000 jobs, with 80% of the workforce being women, and will recycle 45,000 tons of biomass per year, sequestering 5.1 Mt CO<sub>2</sub>.



### Organizations or initiatives advancing the Land-Use 2030 Climate Solutions in Africa

AFR100  
Amboseli Ecosystem Trust  
Africa Forest Forum  
Department of Agricultural Extension Service  
Ministry of Food and Agriculture Ghana  
GIZ  
Ghana Enterprises Agency  
Global Ever Green Alliance  
Great Green Wall  
LEWA Conservancy, Landesa  
Nature State  
PELUM Kenya  
Population  
Health and Environment Ethiopia Consortium  
Rainforest Foundation UK  
WASCAL  
World Vision Kenya

## 3.2. Land Conversion and Climate Change in Asia: A Critical Intersection for Sustainable Development

During the 2030 Climate Solutions survey and validation workshops **Sustainable and Resilient Agriculture, Nature-Based Solutions for Mitigation** and **Halting Deforestation, Investing in Nature** were identified as the top three land-use solutions in Asia according to non-Party stakeholders. A regional analysis conducted by the UNFCCC secretariat on sectoral priorities within NDCs and NAPs from Asia revealed alignment with these priorities, demonstrating a good context for the implementation of current and

future NDCs and NAPs. Afforestation, reforestation and revegetation are included in 55% of NDC submissions, while agriculture is prioritized in 69% of NAP submissions. The biodiversity sector is highlighted in 54% of submissions from this region.

Survey respondents in Asia identified the following barriers to and enablers of the delivery of their land-use priorities:

### Barriers:

- Inadequate funding, imbalanced between mitigation and adaptation, limited support for land use projects and limited access to climate finance, which further complicate efforts.
- Rapid growth of urban areas and industrial activities, which can affect habitats and the surrounding environment.
- Resource constraints, a lack of knowledge and limited policy support for smallholder farmers.
- Underrepresentation of women, youth and Indigenous Peoples in decision-making processes, which hinders the adoption of sustainable agricultural practices.

### Enablers and Recommended Actions:

- Develop and enforce policies promoting climate-resilient and sustainable agricultural practices to encourage widespread adoption by farmers and long-term sustainability.
- Improve access to resources, technology and training for smallholder farmers to implement sustainable practices and boost productivity.
- Promote local markets and investment through public-private partnerships to enhance economic viability and innovation in sustainable agriculture.
- Include diverse perspectives (e.g., women, youth, Indigenous Peoples) in decision-making to foster equity and more effective climate action and land stewardship.

### Leadership Story

#### Asia and the Pacific **Weaving Leadership for Gender Equality**

Weaving Leadership for Gender Equality (**WAVES**) is a regional initiative by RECOFTC that aims to amplify the leadership of young gender leaders from Asia and the Pacific and thus address the systemic inequities and marginalization prevalent in natural resource management landscapes. This initiative engages young women and men in addressing gendered inequalities in the forestry landscape.

### Regional Platform for Climate Projects

#### Indonesia **FairVentures**

**FairVentures** has developed a scalable approach for reforesting degraded tropical land and conserving existing forests in Indonesia, which it has implemented in collaboration with local communities to create a sustainable and legal income source. By 2032, it aims to create 500 direct jobs and 5,000 field worker jobs, revitalize 35,000+ hectares and preserve 15,000+ hectares.



Michael Eko / Climate Visuals Countdown

### Organizations or initiatives advancing the Land-Use 2030 Climate Solutions in Asia

ActionAid Bangladesh  
American University of Beirut (AUB) – Environment and Sustainable Development Unit (ESDU)  
AUB-Issam Fares Institute for Public Policy and International Affairs  
Lebanon Mountain Trail Association  
Lebanon Reform Initiative (LRI)  
RECOFTC  
Think Tank: Arab Reform Initiative (ARI)  
UN Habitat Lebanon  
UNDP Lebanon  
UNEP West Asia  
United Nations Economic and Social Commission for Western Asia (UNESCWA)  
University of Balamand  
World Bank – Urban Development

### 3.3 Building a Resilient Bioeconomy: The Role of Land Use in Climate Action Across Latin America

Stakeholders in Latin America and the Caribbean identified **Sustainable and Resilient Agriculture**, **Halting Deforestation and Investing in Nature**, and **Nature-Based Solutions for Mitigation**, and as the top three land-use solutions in this region. This highlights the need to develop effective financial mechanisms to combat deforestation and land degradation that are rooted in a deep understanding of on-the-ground implementation, led by Indigenous Peoples, local communities and stakeholders.

A UNFCCC regional analysis of sectoral priorities within NDCs and NAPs from countries in Latin

America and the Caribbean revealed alignment with these priorities. Afforestation, reforestation and revegetation are included in 67% of NDC submissions, while reduced deforestation and forest degradation is highlighted in 64% of submissions. Additionally, agriculture is prioritized in 80% of NAP submissions, while biodiversity is highlighted in 67% of submissions from this region.

Survey respondents in Latin America and the Caribbean identified the following barriers to and enablers of the delivery of their land-use priorities:

#### Barriers:

- Uncertainties in market mechanisms and financial frameworks, combined with slow decisions, which challenge long-term restoration and sustainable supply chains.
- Balancing competing land-use demands, such as conservation versus housing and agriculture, is especially challenging in areas rich in biodiversity.
- Inadequate financial incentives for landowners to maintain conservation areas increase the attractiveness of repurposing land for agriculture or urban development.
- Addressing climate, biodiversity and human society in isolation hinders the holistic approaches needed for effective, interconnected solutions.

#### Enablers and Recommended Actions:

- Expand and fund payments for ecosystem services to provide stronger financial incentives for landowners to conserve ecosystems.
- Develop high-integrity carbon credit markets and biodiversity offset programmes to reward landowners for maintaining carbon sinks and habitats.
- Offer tax breaks and subsidies and strengthen regulations to encourage sustainable practices and prevent the conversion of crucial habitats.
- Establish robust monitoring systems to track conservation effectiveness, thus enabling data-driven adjustments and ensuring long-term success.

#### Leadership Story

##### Colombia Reserva Natural La Planada

The Reserva Natural La Planada (Colombia) is a large (3,200 ha) ecosystem under the custody of an Indigenous Council, whose mission is to safeguard the ancestral lands of the Awá People through the judicious management of resources, conservation of cultural heritage and scientific tourism by encouraging the exchange of knowledge between researchers, tourists, students and the Indigenous community.

#### Regional Platform for Climate Projects

##### Latin America and the Caribbean IFACC

IFACC connects leading companies, banks and investors to meet the need for transitional finance in the production of beef, soy and other agricultural products without further deforestation or conversion. IFACC aims to support USD 1 billion in capital disbursements by 2025 and lay the groundwork for over USD 10 billion by 2030.



Ivan Camilo Ospina / Climate Visuals Countdown

#### Organizations or initiatives advancing the Land-Use 2030 Climate Solutions in LAC

20x20  
Bombak  
Coalizão Brasil Clima  
Florestas e Agricultura  
Conservation International  
G20-Global Land Initiative  
Global Canopy  
IFACC  
IPDD

IUCN  
LandBanking  
Pacto de Letícia Initiative - under OTCA  
RESTOR  
TNC  
UNEP  
WRI  
WWF



# Human Settlements

Human settlements impact everyone, everywhere. They shape, and are shaped by, the people who live within them. For this reason, human settlements are central to climate resilience and mitigation efforts. The 2030 Climate Solutions for Human Settlements aim to unite non-State actors behind shared targets that collectively guide us toward a net zero, resilient and inclusive urban environment while enhancing access to safe and affordable housing for all.

| Climate Solution  | 2030 Global Targets  | Source   |
|---|--|--|
| <b>Built Environment</b>  | 100% of projects completed in 2030 or after are net zero carbon in operation with >40% reduction in embodied carbon.<br>Near-zero emission and resilient buildings are the new normal by 2030.   | 2030 Breakthroughs; Breakthrough Agenda                |
| <b>Housing Access and Affordability</b>                                       | 1 billion people have better design, construction and access to finance to live in decent, safe homes<br>Near-zero emission and resilient buildings are the new normal by 2030   | Sharm El Sheikh Adaptation Agenda; Breakthrough Agenda |
| <b>Open Waste Burning</b>   | 60% reduction of open burning of waste levels by 2030, and full-phase out from Africa by 2040<br>Increased municipal solid waste recovery and management in controlled facilities to reduce open burning by 60% while including the informal waste sector  | 2030 Breakthrough; Sharm El Sheikh Adaptation Agenda   |
| <b>Early Warning Systems</b>  | Multi-hazard early warning systems have universal coverage   | Sharm El Sheikh Adaptation Agenda                      |
| <b>Universal Access to Risk Information and Solutions to Build Resilience</b> | All populations, especially those most vulnerable to impacts of climate change, have ready access to platforms to understand the risks climate poses and the solutions that can be taken to adapt and build resilience to these risks and to integrate climate risks into decision making from local to global levels. | Sharm El Sheikh Adaptation Agenda                      |
| <b>Cities and Regions Resilient Planning</b>                                  | 10,000 cities and 100 regional governments have evidence-based, actionable adaptation plans  | Sharm El Sheikh Adaptation Agenda                      |

| Climate Solution  | 2030 Global Targets   | Source                            |
|---|---|-----------------------------------|
| <b>Resilient Health Solutions</b>                         | <p>Health systems and facilities are resilient to climate hazards and vulnerable populations have access to safe and quality health services</p> <p>Multi-sectoral heat action plans and health-sector action plans protect high risk populations (older persons, workers, impoverished, marginalized), for 50% of the populations exposed to extreme heat</p> <p>All countries have climate-informed health surveillance and early warning systems in place for priority climate-sensitive diseases, including vector-borne, water-related, airborne</p> <p>Increase financing flows to build climate-resilient health systems</p> | Sharm El Sheikh Adaptation Agenda |
| <b>Planning and Locally-Led Principles for Adaptation</b> | Operationalization of National Adaptation Plans and Locally-Led Principles, enabling adaptation in a country- driven localized and consultative manner  | Sharm El Sheikh Adaptation Agenda |
| <b>Greening Urban Areas</b>                               | USD 1 trillion invested in nature-based solutions for communities in urban areas  | Sharm El Sheikh Adaptation Agenda |
| <b>Net Zero Health Solutions</b>                          | Target in development   | Race to Zero                      |
| <b>Urban Water Resilience</b>                             | Target in development   | Sharm El Sheikh Adaptation Agenda |
| <b>Cities and Regions Net zero Planning</b>               | Target in development   | Race to Zero                      |
| <b>Social Infrastructure Networks</b>                     | Target in development   | Sharm El Sheikh Adaptation Agenda |





# 4.1. Enhancing Urban Resilience in Africa: Implementing Early Warning Systems and Addressing Open Waste Burning

African stakeholders identified **Early Warning Systems**, **Open Waste Burning** and **Built Environment** as the top three solutions for human settlements. A regional analysis conducted by the UNFCCC on sectoral priorities within NDCs and NAPs from Africa indicated some level of alignment with these priorities. The buildings sector is an important component of NDCs submitted in the region, while human settlements are prioritized in 59% of NAP submissions.

In contrast, disaster prevention/reduction is present in only 12% of NAPs, highlighting an opportunity to incorporate this critical

priority into future NAPs to reflect the evolving needs and realities of the region. Moreover, waste recycling and reduction are only mentioned in few current NDCs, highlighting an opportunity to integrate them into future NDC updates to maximize the options for implementation.

Survey respondents in Africa identified the following barriers to and enablers of the delivery of their human settlements priorities:

## Barriers:

- High upfront costs for modern technologies, such as efficient cookstoves and fuels, and inadequate infrastructure.
- Political instability and environmental degradation.
- Deficiencies in data, a lack of specific guidance and a lack of knowledge held by subnational governments.
- Cultural resistance towards and insufficient education on new technologies and practices.

## Enablers and Recommended Actions:

- Strengthen multi-level governance by enhancing collaboration among national and subnational governments, stakeholders and intermediary organizations, including coordination for effective adaptation and planning.
- Support financial accessibility and resilience by providing subsidies, grants and financial incentives for modern technologies; restructuring financial architectures to prevent unsustainable debt; and de-risking city-scale projects for adaptation.
- Improve data collection and sharing by investing in advanced data-gathering technologies, establishing comprehensive data repositories and ensuring transparent sharing to enhance planning and decision-making processes.
- Promote sustainable and resilient infrastructure by advocating for net zero carbon buildings, efficient energy systems and robust waste management policies, including environmental protection programmes such as reforestation and conservation in urban areas.

## Leadership Stories

### Sub-Saharan Africa Covenant of Mayors

In the framework of the Covenant of Mayors in Sub-Saharan Africa, cities such as Windhoek (Namibia) and Mombasa (Kenya) have developed climate change risk and vulnerability and flood risk assessments. Similarly, the Maputo Metropolitan Area (Mozambique) finalized their Sustainable Energy Access and Climate Action Plan in 2023.

### Morocco Vision Chefchaouen 2030

Vision Chefchaouen 2030 is the roadmap created by the city of Chefchaouen (Morocco) to localize and implement the Sustainable Development Goals, including focus areas on energy efficiency and renewable energy, e-mobility and waste (e.g., waste management, recycling and waste-to-energy).



Yana Paskova / Climate Visuals Countdown

## Organizations or initiatives advancing the Human Settlement 2030 Climate Solutions in Africa

- |   |   |
|---|---|
| African Climate & Development Initiative (ACDI)         | GIZ   |
| Africa Urban Lab  | ICLEI- Local Governments for Sustainability |
| African Centre for Cities                               | Kounkuey Design Initiative                  |
| Build Change  | REALL Housing                               |
| Build X   | Red Cross Red Crescent                      |
| C40 Cities  | Slum Dwellers International                 |
| CDP-ICLEI Track   | United Cities and Local Governments (UCLG)  |
| Clean Cooking Alliance                                  | Under2 Coalition                            |
| Covenant of Mayors in Sub-Saharan Africa (CoM SSA)      | UN-Habitat                                  |
| Daraja  | WRI   |
| Global Covenant of Mayors for Climate and Energy (GCoM) | WWF   |

## 4.2. Advancing Human Settlements in Asia: Unlocking Urban Planning and Adaptation Strategies

Asian stakeholders identified **Planning and Locally Led principles for Adaptation, Cities and Regions Resilient Planning** and **Resilient Health Solutions** as their top three priorities for human settlements. However, a regional analysis by the UNFCCC on sectoral priorities within NDCs and NAPs from Asia revealed mixed results. Improvements in energy efficiency under the buildings sector are prioritized in 73% of NDC submissions. Disaster prevention and reduction are

prioritized in only 54% of submitted NAPs, while human settlements and sustainable and resilient territories are mentioned in only 46% and 31% of NAPs, respectively, highlighting the need to include more urban resilience content in future NAPs.

Survey respondents in Asia identified the following barriers to and enablers of the delivery of their Human Settlements priorities:

### Barriers:

- Limited technology and inadequate infrastructure in rural areas.
- Insufficient data and monitoring, leading to a lack of comprehensive data on climate impacts.
- Institutional and financial shortcomings, such as a weak institutional capacity and insufficient financial support.
- Policy and conflict challenges, such as discrepancies between national policies and local implementation, coupled with disruptions due to armed conflicts.

### Enablers and Recommended Actions:

- Enhance multi-level governance by aligning urban and rural planning with national policies to address both climate change and socio-economic challenges.
- Integrate rural and peri-urban areas, recognizing the crucial role of these surrounding areas in enhancing the resilience and sustainability of urban centres.
- Promote social equity in planning by implementing social equity quotas to ensure diverse community representation in urban planning.
- Strengthen health systems and access by developing equitable health systems and facilities and thus ensuring timely access to quality health services for all sub-regions and vulnerable populations.

### Leadership Stories

#### Asia Roof Over Our Heads

The *Roof Over Our Heads* campaign envisions the delivery of resilient, low-carbon and affordable homes and improved public infrastructure to urban residents, particularly those living and working in informal settings. The goal is to ensure that poor urban populations have improved living conditions and well-being, with housing designed to provide access to basic services such as water, sanitation, healthcare, education and energy.

#### China Beijing and Shenzhen

*Beijing* has promoted ultra-low energy consumption in new buildings and is transitioning from coal to clean energy, thus reducing the carbon footprint of its energy mix. Shenzhen's International Low Carbon City has promoted retrofitting and energy efficiency through ambitious targets, innovative technologies and financial incentives to reduce carbon emissions in public and private buildings.



### Organizations or initiatives advancing the Human Settlement 2030 Climate Solutions in Asia

- Asian Development Bank
- Asian Infrastructure Investment Bank (AIIB)
- C40 Cities
- EvalYemen Organization for Development
- Global Covenant of Mayors for Climate and Energy (GCoM)
- ICLEI-Local Governments for Sustainability
- Indian Institute for Human Settlements
- New Development Bank
- United Cities and Local Governments (UCLG)
- WRI India Ross Center

## 4.3. Integrating Locally Led Adaptation Solutions in Latin America and the Caribbean into National Plans

**Cities and Regions Resilient Planning, Planning and Locally Led Principles for Adaptation, and Built Environment** were identified as the top three solutions for human settlements in Latin America and the Caribbean. However, a UNFCCC analysis on NDCs and NAPs from LAC revealed significant gaps in prioritization. Energy efficiency improvements under the buildings sector are prioritized in only 55% of NDC submissions. Human settlements are mentioned in only 27% of submitted

NAPs, while disaster prevention and reduction and sustainable and resilient territories are an even lower priority, included in just 20% of NAPs. This highlights a critical need to better align future national plans with the evolving needs of the region.

Survey respondents in Latin America and the Caribbean identified the following barriers to and enablers of the delivery of their human settlements priorities.

### Barriers:

- Limited participation of Indigenous Peoples and vulnerable communities in adaptation planning, which hampers the inclusiveness and effectiveness of strategies.
- Inadequate focus on and funding for Adaptation, demonstrated by Caribbean SIDS' lack of prioritized adaptation plans and consequent high adaptation costs with inadequate local financial support.
- Insufficient sharing of best practices, and limited documentation of successful locally led adaptation practices, which hinder effective adaptation efforts.
- Institutional and technical barriers, such as the outdated administrative frameworks, data gaps and lack of technical expertise necessary for effective adaptation that hinder subnational governments.

### Recommended Actions:

- Empower local communities by supporting adaptation efforts for Indigenous, Afro-descendant communities and small enterprises with capacity-building and transparent financial aid.
- Implement and integrate ecosystem-based solutions to enhance local resilience and effective adaptation to climate change.
- Incorporate Indigenous knowledge through participatory research, and use this knowledge to improve data for planning and ensure an evidence-based approach.
- Strengthen multi-stakeholder coordination by boosting coordination mechanisms and multi-level governance, recognizing the role of subnational governments in climate policy.
- Improve financial and technical support by providing targeted financial and technical assistance for adaptation projects and promoting inclusive, data-driven monitoring and reporting.

### Leadership Stories

#### Mexico Climate Change State Council

The State of Jalisco, Mexico, a member of [Regions4's RegionsAdapt](#), established the Climate Change State Council, a participatory and advisory body that strategizes, implements and evaluates initiatives aimed at mitigating GHG emissions; reducing vulnerabilities in people, ecosystems, infrastructure and productive systems; and addressing the impacts of climate change in its jurisdiction.

#### Chile CHAMP

In 2022, Chile – a [CHAMP](#) endorsing country – enacted a new law requiring that governments at all levels develop action plans that complement the NDC and NAP. These mandatory plans are monitored, evaluated and reported at the national level.



### Organizations or initiatives advancing the Human Settlement 2030 Climate Solutions in LAC

C40 Cities  
Caribbean Climate Justice Alliance  
Caribbean Community Climate Change Centre  
Climate Analytics Caribbean  
Cropper Foundation  
EPIC  
Global Covenant of Mayors for Climate and Energy (GCoM)  
IAMovement

ICLEI - Local Governments for sustainability  
Observatório do Clima  
Regions4  
UNEP  
United Cities and Local Governments (UCLG)  
Yapu Solutions



Aji Styawan / Climate Visuals

# Transport

Transport systems are the backbone of the global economy, enabling trade and human mobility. The 2030 Transport Climate Solutions aim to deliver a just transition from fossil fuels through the adoption of cleaner molecules in the aviation and maritime sub-sectors, widespread vehicle and

rail electrification in road transport, as well re-orienting travel and shifting towards sustainable modes like public transport and active travel. These solutions increase resilience and availability of systems to ensure accessibility to jobs and opportunities for all.

| Climate Solution  | 2030 Global Targets  | Source  |
|---|--|---|
| <b>Road Transport (Passenger Vehicles &amp; Vans)</b>   | Zero emission vehicles (ZEV) are the new normal – accessible, affordable and sustainable in all regions by 2030. ZEV makes up 100% of total global passenger vehicles & vans sales by 2030 (in key markets).   | Breakthrough Agenda; 2030 Breakthroughs               |
| <b>Road Transport (Buses &amp; Heavy Duty Vehicles)</b> | Zero emission vehicles (ZEV) are the new normal – accessible, affordable and sustainable in all regions by 2030. Battery Electric Vehicles (BEV) and Fuel Cell Electric Vehicles (FCEV) make up 60% of global bus sales and 35-40% of global heavy goods vehicles sales by 2030. | Breakthrough Agenda; 2030 Breakthroughs               |
| <b>Resilient Transport</b>                              | Transport infrastructure is resilient to climate hazards through adoption of new technology, design and materials.   | Sharm El Sheikh Adaptation Agenda                     |
| <b>Green Shipping</b>                                   | Zero emission fuels make up at least 5%, aiming for 10% of international shipping fuels and 15% of domestic shipping fuels by 2030   | 2030 Breakthroughs                                    |
| <b>Resilient Shipping</b>                               | 450,000 Seafarers need upskilling and retraining by 2030<br>30% trade moving through climate adapting ports by 2030  | 2030 Breakthrough; Sharm El Sheikh Adaptation Agenda  |
| <b>Aviation</b>   | Sustainable aviation fuels (SAF) make up 13-15% of fuels globally by 2030.   | 2030 Breakthroughs                                    |
| <b>Avoid &amp; Shift</b>                                | Target in development  | 2030 Breakthroughs                                    |
| <b>Transport Accessibility and Affordability</b>        | Target in development  | Sharm El Sheikh Adaptation Agenda; 2030 Breakthroughs |

## 5.1 Electrifying Africa's Two- and Three-Wheelers and Mini Buses

**Road Transport (Passenger Vehicles & Vans), Road Transport (Buses & Heavy Duty Vehicles) and Resilient Transport** were identified as the top three transport solutions by African stakeholders. NDCs across Africa focus on reducing emissions from road transport and enhancing infrastructure resilience. An analysis conducted by the UNFCCC on sectoral priorities in NDCs identified transport electrification as a priority in 43% of NDCs submitted in Africa, while shifting to more efficient modes of transport was a priority in 58% of NDCs. A similar analysis identified transport

and mobility as a priority in 24% of NAPs submitted in Africa. These findings highlight the opportunity to emphasize two priorities in the next round of NDCs and NAPs: sustainable urban mobility planning to enhance walking, cycling and public transport use, and innovative financing mechanisms that support the electrification of vehicles.

Survey respondents in Africa identified the following barriers to and enablers of the delivery of their transport priorities:

### Barriers:

- Road transport, particularly via mini buses and 2- and 3-wheelers, faces significant challenges, including aging vehicle fleets, a lack of coordinated action, limited technical capacity and inadequate regulatory frameworks to support the uptake of climate solutions.
- The popular informal transport sector, which handles a large share of daily commutes, must be better integrated into efforts to electrify, decarbonize and adapt the sector to our changing world.

### Enablers

- Advance sustainable urban mobility planning that addresses walking, cycling and public transport use.
- Promote innovative financing mechanisms that support the conversion of internal combustion engine mini buses to electric vehicles.
- Provide targeted technical support and financial incentives, particularly for the informal transport sector, where re-organisation and electrification could significantly reduce operational costs and emissions.

### Regional Platform for Climate Projects

#### Tunisia Sustainable Urban Mobility Plans

Sustainable Urban Mobility Plans are created to reverse the trend of car reliance in the Tunisian cities of Tunis, Sfax and Sousse. By improving public transport, introducing electric vehicles and enhancing pedestrian infrastructure, the plan encourages people to avoid car use and shift to greener options. Women and children particularly benefit from the increased accessibility to jobs and opportunities.

#### Sub-Saharan Africa BasiGo

To reduce hazardous GHG emissions, BasiGo is electrifying public vehicles in sub-Saharan Africa through its Pay-As-You-Drive e-Bus model. It is aiming for a sales target of 1000 e-buses in the next 3 years, creating 300 green jobs, and reducing an estimated 1 Mt CO2 annually, which will benefit vulnerable populations.



### Organizations or initiatives advancing the Transport 2030 Climate Solutions in Africa

Africa E-mobility Alliance  
Ampersand  
BasiGO  
eWAKA  
Mobility for Africa  
Safe Boda  
Transport for Cairo  
UNEP  
Wahu Mobility

## 5.2 Asia's Rapid Transport Evolution: From Electric Vehicle Growth to Public Transit Transformation

Asian stakeholders identified **Resilient Transport**, **Road Transport (Buses & Heavy Duty Vehicles)**, and **Road Transport (Passenger Vehicles & Vans)** as their top Transport solutions. Current NDC submissions in Asia, according to a regional analysis conducted by the UNFCCC, prioritize energy efficiency improvements in transport (64% of NDCs), followed by transport electrification (61% of NDCs) and modal shifts (52% of NDCs). A majority of NAP submissions prioritize

infrastructure (62%), while only a minority reference mobility or transport (23% of NAPs), suggesting an important opportunity to integrate transport system resilience into the next round of NDCs and NAPs in Asia.

Survey respondents in Asia identified the following barriers to and enablers of the delivery of their transport priorities:

### Barriers:

- CO2 emissions from transport grew faster in Asia than in any other region, with two thirds of countries exceeding the global average for emissions growth.
- Rapid urbanization and rising transport demand have led to a supply of light, medium and heavy-duty electric vehicles that do not meet the commercial sector's needs.

### Enablers

- Ecosystem engagement can address the supply gap in electric vehicles.
- Enhancing charging infrastructure through innovative policies, such as the shared use of private facilities, can sustain vehicle electrification momentum.
- Expanding high-speed rail, metro systems and bike-sharing, along with formalizing informal transport and replacing older buses with electric ones, will drive further decarbonization efforts.

### Leadership Stories

#### India eFast

eFAST, India's Green Freight Programme, is driving the electrification of India's trucks. Three ongoing pilots, a demand signal for 7,750 eTrucks and a roadmap to electrify corridors is uniting the government with private stakeholders to define the sourcing of eTrucks, mobilize finance, establish policies and implement change.

#### South Korea Seoul's Climate Card

Seoul's Climate Card is a public transport pass offering unlimited access to sustainable transport modes. With transport accounting for 18% of Seoul's GHG emissions, the Climate Card was introduced to reduce car travel, alleviate transportation costs and encourage the shift to low-emission transport modes such as public transit and cycling.



Abhishek Chinnappa / Climate Visuals Countdown

### Organizations or initiatives advancing the Transport 2030 Climate Solutions in Asia

Asia Transport Outlook by Asian Development Bank  
 Clean Air Asia Better Air Quality BAQ Conference  
 eFAST India  
 Global Climate Action Partnership  
 Society For The Promotion Of Area Resource Centers Link  
 UNESCAP Regional Cooperation Mechanism on Low Carbon Transport

## 5.3 From Ethanol in Cars to Electric Buses and Sustainable Aviation Fuels (SAF) for the World

Latin American and Caribbean stakeholders identified **Green Shipping, Resilient Transport, and Road Transport (Passenger Vehicles & Vans)** as their top transport solutions. A regional analysis of NDCs and NAPs conducted by the UNFCCC identified electrification as a priority in 55% of NDC submissions in this region, while only 13% of NAP submissions identifying it as a priority. This suggests that many

opportunities exist for further alignment between priorities by Non-State Actors and the next round of NDCs and NAPs.

Survey respondents in Latin America and the Caribbean identified the following barriers to and enablers of the delivery of their Transport priorities:

### Barriers:

- Heavy urbanization.
- Reliance on informal transport for travel within cities.
- Tension between biofuel reliance and electrification efforts.

### Enablers

- Advance Bus Rapid Transit (BRT) systems and electrified bus fleets, such as those used in leading Chilean and Colombian cities.
- Promote sustainable urban mobility, shift travel to shared modes and expand public transport use.
- Prioritize biofuel use for Sustainable Aviation Fuel (SAF) while adopting low-emission fuels for shipping, which would allow Latin America to tap into a growing export market.

### Organizations or initiatives advancing the Transport 2030 Climate Solutions in LAC

Ambition Loop  
C40 Cities  
Centro Para la Sostenibilidad Urbana  
ECLAC  
Inter-American Development Bank (IDB)  
Sustander

### Leadership Stories

#### Panama Panama Canal Authority

Three percent of global maritime emissions come from ships. A pioneer, the Panama Canal Authority calculated its Scope 3 emissions and created a climate strategy that includes Net Zero by 2050, enhancing climate resilience in the watershed for vulnerable populations, Canal operations, and vital ecosystems.

#### Brazil Acelen Renewables

Acelen Renewables will spearhead a global energy transition by producing 1 billion litres of sustainable aviation fuel annually using macauba, a high-performance, native Brazilian non-food plant. The innovative USD 3 billion project will restore 180,000 ha of degraded land, create 90,000 jobs, reduce 80% of fuel emissions and sequester 60 Mt CO<sub>2</sub>.





Shibasish Saha / Climate Visuals

# Water

Freshwater systems are at the heart of both climate mitigation and adaptation, playing a crucial role in sustaining ecosystems, agriculture, industries, and human health. The 2030 Climate Solutions for Water focus on safeguarding and restoring water resources while ensuring that all communities have equitable access to clean and safe water. Across Africa, Asia-Pacific and Latin American and the Caribbean, non-state actors

are already leading the charge, implementing transformative projects that restore critical ecosystems, enhance water services and access, and strengthen the resilience of Water systems. These efforts highlight the essential role of innovative investments, forward-thinking policies, and inclusive governance in building resilient freshwater systems and a water-secure future for all.

| Climate Solution                    | 2030 Global Targets   | Source                            |
|-------------------------------------|---|-----------------------------------|
| <b>Water and Wastewater Systems</b> | Water systems are smart, efficient and robust with a reduction in water loss through leakage and Wastewater systems maximise recycling and reuse alongside natural wetland filtration with zero environmental spillage  | Sharm El Sheikh Adaptation Agenda |
| <b>Freshwater</b>                   | Restore 300.000 kms of rivers and 350M hectares of wetlands by 2030   | Sharm El Sheikh Adaptation Agenda |
| <b>Climate Resilient WASH</b>       | By 2028, all communities living in the overlap of high climate hazard exposure and insufficient water, sanitation, and hygiene access have been targeted with climate resilient water, sanitation, and hygiene services   | Sharm El Sheikh Adaptation Agenda |
| <b>Food-Water Nexus</b>             | Coherent national policy frameworks and climate strategies are enhanced to integrate water planning that enables transformative climate outcomes in agriculture.  | Sharm El Sheikh Adaptation Agenda |
| <b>Funding Water</b>                | By 2030, 1% (approximately USD 7 billion per year) of annual water sector spending is invested in nature-based solutions via watershed investment programs – like water funds – resulting in improved management and/or protection of rivers, lakes and wetlands, driving water security benefits and improving critical habitat for biodiversity | Sharm El Sheikh Adaptation Agenda |
| <b>Water Decarbonization</b>        | Water and wastewater services are fully decarbonised in 20 countries, by 2030   | 2030 Breakthrough                 |



# 6.1. Strengthening the Food–Water Nexus, Climate-Resilient WASH and Funding to Address African Priorities

African non-Party stakeholders have identified **Food-Water nexus**, **Climate-resilient WASH**, and **Funding water** as the top three water solutions in the region. The regional analysis conducted by the UNFCCC secretariat on sectoral priorities within NAPs submitted in Africa demonstrated alignment with these priorities, with water resources recognized as an adaptation priority in 94% of submissions and health in 59% of submissions. However, the food system

sector is prioritized in only 18% of NAP submissions, underscoring an opportunity to better integrate this critical priority into future NAP updates to enhance the food-water nexus as key adaptation measure.

Survey respondents in Africa identified the following barriers to and enablers of the delivery of their water priorities:

## Barriers:

- Extreme water vulnerability, with 19 African countries deemed water insecure; climate-induced water shocks are felt in three escalating ways in Africa: water is either too much, too little or too polluted (WRI, 2020).
- Estimated water infrastructure gap of USD 66 billion per annum in sub-Saharan Africa (WRI, 2020).
- Lack of financial and technical resources and capacity.
- Insufficient and ineffective water planning and policies, with limited coordination among stakeholders and across sectors.

## Enablers and Recommended Actions:

- Accelerate international cooperation to enable capacity-building and technological support at the institutional and communal levels.
- Invest in water solutions and increase funding for water and sanitation infrastructure.
- Define the institutional mechanisms for water management.
- Strengthen the nexus of water with heavy emitting sectors, such as energy (World Bank, 2024).

## Leadership Stories

### Egypt NoorNation

NoorNation is an Egyptian start-up providing decentralized solar energy and water solutions tailored towards farming businesses and underserved communities. Its flagship product, the LifeBox, leverages solar energy for water pumping and desalination, all from one plug-and-play unit. It addresses a pressing need in Egypt, where climate change is driving high salinity and depleting water sources.

### Africa ACWA Fund

The African Cities Water Adaptation (ACWA) Fund & Platform has catalysed partnerships and continues to offer technical assistance to partner cities in Africa. This assistance has included the development of a pipeline of 48 urban water resilience projects, three of which (namely: Johannesburg, Kigali and Dire Dawa) have received over USD 20 million from donors to implement nature-based solutions.



Natalija Gormalova / Climate Visuals Countdown

## Organizations or initiatives advancing the Water 2030 Climate Solutions in Africa

- |                             |                             |
|-----------------------------|-----------------------------|
| African Center for Cities   | Stockholm International     |
| Africa Water and Sanitation | Water Institute (SIWI)      |
| Association                 | UNDP                        |
| Aqua Clara                  | UNESCO                      |
| Arup                        | UNICEF                      |
| Cap-Net                     | USAID                       |
| FCDO                        | Water Access Rwanda         |
| ICLEI-Local Governments     | WaterAid                    |
| for Sustainability          | Water Kiosk Africa          |
| Jibu Water                  | Water Unite                 |
| Just One Africa             | WRI                         |
| Oasis Water                 | UN-Habitat                  |
| Resilient Cities Network    | Water Institute of Southern |
| Sanivation                  | Africa (WISA)               |

## 6.2. Championing Resilience through Innovative Water Solutions in Asia

**Climate-Resilient WASH, Freshwater** and **Food-Water Nexus** were identified as the top three water solutions by Asian stakeholders. The regional analysis of NAPs submitted in Asia, conducted by the UNFCCC, revealed alignment with these identified priorities, with water resources recognized as an adaptation priority in 87% of submissions and health in 77% of submissions.

However, the food system sector is prioritized in only 31% of NAP submissions, highlighting an opportunity to incorporate the food-water nexus into future NAPs to reflect the evolving needs and realities of the region.

Survey respondents in Asia listed the following barriers to and enablers of the delivery of their water priorities:

### Barriers:

- Insufficient water governance and institutional capacity and fragmented water management.
- Lack of infrastructure for water storage, distribution and treatment.
- Over-extraction of groundwater and population growth.
- Limited financial resources and competing priorities within constrained national budgets.

### Enablers and Recommended Actions:

- Strengthen water governance and policy frameworks, e.g., by introducing water quality standards, incentives for compliance with water conservation measures and mainstreaming of water accounting and pricing at the national and regional levels, thus placing water security at the core of national and regional strategies.
- Scale up public finance, multilateral development financing, international aid and private investment.
- Invest in quality and resilient infrastructure and technologies such as water distribution networks and treatment plans, smart meters for monitoring water usage, desalination technologies and water-efficient irrigation systems.
- Integrate culture and Indigenous knowledge into water security management.

### Leadership Story

#### Iran Miras Parishan Kazeroon (MPK)

Miras Parishan Kazeroon (MPK) was formed in 2014 in response to the depletion of the Parishan International Wetland, Iran's largest freshwater wetland. It is a leading advocate for wetland protection and restoration and the mobilization of environmental activists; it empowers local communities and fosters collaborations with the government and non-governmental entities, thus expanding their efforts to protect other wetlands.

### Regional Platform for Climate Projects

#### Jordan AAWDPCP

To address water scarcity, the AAWDPCP plans to provide desalinated water to 300 million cubic meters per year (MCM/year) to around 7 million people in Jordan for domestic use. The estimated emission avoidance would be 3.2 kgCO<sub>2</sub>e/CM.



DIPAYAN BOSE / Climate Visuals Countdown

### Organizations or initiatives advancing the Water 2030 Climate Solutions in Asia

Asian Development Bank (ADB)  
CEEW  
GIZ  
Hindustan Unilever Suvidha Centres (India)

New Development Bank (NDB)  
Novartis  
Observer Research Foundation (ORF)  
WRI

## 6.3. Strengthening Water Infrastructure and Health: Top Water Priorities in Latin America and the Caribbean

Latin American and Caribbean stakeholders identified **Water and Wastewater Systems, Food and Water Nexus**, and **Climate-Resilient WASH** as their top two water priorities. The analysis conducted by the UNFCCC secretariat on sectoral priorities within NAPs submitted in this region demonstrates alignment with these priorities, with water resources recognized as an

adaptation priority in 87% of submissions and Health in 67% of submissions, providing grounds for immediate multi stakeholders implementation.

Survey respondents in Latin America and the Caribbean identified the following barriers to the delivery of their water priorities:

### Barriers:<sup>15</sup>

- Lack of finance to acquire and maintain the necessary technology and infrastructure.
- Limited technical capacity to install and use such technologies and systems.
- Insufficient regulatory frameworks, e.g., water quality indicators and wastewater treatment standards.

### Organizations or initiatives advancing the Water 2030 Climate Solutions in LAC

|                         |   |
|-------------------------|---|
| ALADYR                  | TNC   |
| ANDESS                  | UNDP  |
| FAO                     | UNFCCC  |
| GWP South America       | UNGC CEO Water Mandate/Water Resilience Coalition |
| IDB                     | WWF   |
| IWMI                    | YNC Water Funds                                   |
| Oxfam                   | Water Resilience Coalition                        |
| Pacto Seguridad Hídrica |   |
| Race to Resilience      |   |

<sup>15</sup> Survey respondents didn't express enablers or recommended actions for this section.

### Leadership Stories

#### Peru Natural Infrastructure for Water Security

Peru's [Natural Infrastructure for Water Security Project](#) is addressing a long-term water security challenge by promoting investments in nature-based solutions through innovative sources, such as the 'Payment for Ecosystem Services', which allows water utilities to earmark and use a portion of water user tariffs to protect and restore upstream water sources.

#### Argentina Agua y Saneamientos Argentinos

By developing and implementing policies, strategies and plans for mitigation and adaptation, [Agua y Saneamientos Argentinos \(AySA\)](#) has reduced water losses by 13% over 10 years and energy consumption by its wastewater treatment plants by 50%. AySA also has invested in renewable energy generation and innovative technologies for water reuse.



# Ocean and Coastal Zones

An aerial photograph of a small boat on a vast, deep blue ocean. The boat is positioned in the lower right quadrant, leaving a wide, white, frothy wake that extends towards the bottom left. The water's surface is textured with subtle ripples and variations in blue tones, suggesting depth and movement.

Situated at the heart of the global climate system, the ocean is essential to the maintenance of life, playing a key role in supporting global efforts to limit rising temperatures and build resilience to climate impacts. In addition, the ocean has the potential to enhance resilience, create decent jobs, spur economic growth and help meet the food and energy needs of a growing population. The Ocean Breakthroughs identify tipping points that should be reached by 2030 to achieve a healthy and productive ocean in 2050, with a reduction of up to 35% in GHG emissions and contributions to a resilient, nature-positive and net zero future. These science-based targets designed to boost mitigation and adaptation

efforts are articulated around five key sectors: marine conservation, ocean renewable energy, shipping, aquatic food and coastal tourism. Accelerated action and investments in each will help unlock the potential of the ocean as a source of solutions to the pressing challenges posed by climate change and biodiversity loss. The Ocean Breakthroughs act as a lighthouse not only for non-State actors but also for governments. They are rooted in the 'Blue Ambition Loop', highlighting how strong leadership from non-State actors can positively influence governments and drive more ambitious public policies.

| Climate Solution              | 2030 Global Targets   | Source  |
|-------------------------------|---|---|
| <b>Mangroves</b>              | Invest USD 4 billion 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 | 2030 Breakthrough;<br>Sharm El Sheikh Adaptation Agenda                 |
| <b>Coral Reefs</b>            | Secure the future of at least 125,000 km <sup>2</sup> of shallow- water tropical coral reefs with investments of at least USD 12 billion to support the resilience of more than half a billion people globally in total by 2030.  | 2030 Breakthrough;<br>Sharm El Sheikh Adaptation Agenda                 |
| <b>Ocean Renewable Energy</b> | By 2030, install at least 380 GW of offshore capacity while establishing targets and enabling measures for net- positive biodiversity outcomes and advocate for mobilizing USD 10 billion in concessional finance for developing economies to reach that goal.                              | 2030 Breakthrough   |
| <b>Aquatic Food</b>           | By 2030, provide at least USD 4 billion per year to support resilient aquatic food systems that will contribute to healthy, regenerative ecosystems, and sustain food and nutrition security for three billion people.  | 2030 Breakthrough   |
| <b>Marine Conservation</b>    | By 2030, investments of at least USD 72 billion secure the integrity of ocean ecosystems by protecting, restoring, and conserving at least 30% of the ocean for the benefit of people, climate, and nature.   | 2030 Breakthrough;<br>Sharm El Sheikh Adaptation Agenda                 |
| <b>Shipping</b>               | Zero emission fuels make up at least 5%, aiming for 10% of international shipping fuels and 15% of domestic shipping fuels by 2030 (*)<br>450,000 Seafarers need upskilling and retraining by 2030. (*)<br>30% trade moving through climate adapting ports by 2030 (*)                      | 2030 Breakthrough; Sharm El Sheikh Adaptation Agenda<br>See pages 27-28 |
| <b>Coastal Tourism</b>        | Target in development   | 2030 Breakthrough;<br>Sharm El Sheikh Adaptation Agenda                 |
| <b>Seagrass</b>               | Target in development   | 2030 Breakthrough;<br>Sharm El Sheikh Adaptation Agenda                 |

# 7.1 Ocean and Coastal Zones Solutions in Africa<sup>16</sup>

**Marine Conservation** is the top Ocean and Coastal Zone solution in Africa, according to the survey's respondents. The regional analysis conducted by the UNFCCC on NDCs and NAPs indicates that "coastal zones" and "fisheries/aquaculture" are recognized as adaptation priorities in 53% and 47% of the NAPs

submitted by African countries, respectively. However, this sector is absent from current NDCs. This offers a vital opportunity to incorporate these areas into future NDC updates, enabling national climate strategies to fully harness the mitigation and adaptation potential of ocean-based solutions.

## Barriers:

- Unresolved pollution, disease problems and abandoned shrimp ponds, which have plagued the shrimp aquaculture industry and are presenting challenging conditions for restoration practitioners considering how to restore the hydrology of regions in Mozambique ([State of the Worlds Mangrove Report, 2024](#))
- Loss of traditional livelihoods from fishing and farming, as traditional skills and local wisdom are no longer passed down to future generations and deconstructive fishing practices are used.
- Deforestation for fuel, which comprises the greatest threat to Madagascan mangroves. Additional threats include logging for agriculture, extensive – rather than local and artisan – shrimp farming and crab fishing, touristic infrastructure, human settlements, migration and population growth and salt production.

## Enablers and Recommended Actions:

- Implement the [Moroni Declaration for Ocean and Climate Action in Africa](#).
- Strengthen sustainable and integrated regional blue economy value chains and commit to working collaboratively to achieve this objective
- Establish a network of regenerative and inclusive coastal seascapes on the African continent as a concrete African ocean action pathway that allows concomitant and collaborative responses to biodiversity and climate crises, while unlocking the socio-economic potential inherent in the development of a regenerative blue economy with the goal of effective resilience.
- Support current continental and regional institutions, frameworks and initiatives that promote ocean science and facilitate investment in Research and Development, science and technology, education and training, with the necessary strengthening of regional institutional expertise in climate and ocean science.

## Leadership Stories

### Western Indian Ocean Great Blue Wall

The [Great Blue Wall](#) is a Western Indian Ocean (WIO)-born, African-driven roadmap designed to achieve a nature-positive world by 2030. It aims to unlock unprecedented nature-based recovery efforts by dramatically accelerating and upscaling ocean conservation actions while enhancing socio-ecological resilience and the development of a regenerative blue economy. It aspires to achieve these goals by catalysing political leadership and financial support.

### Gambia Port of Banjul

The [Port of Banjul](#) is essential to Gambia's economy but risks losing up to 3% of its revenue due to climate change impacts such as increasing sea levels and more frequent and intense weather events. Including adaptation measures in the new port infrastructure will reduce climate risks by 40–50%, benefiting approximately 400,000 people by safeguarding their livelihoods and economic stability.



Maurizio Di Pietro / Climate Visuals

## Organizations or initiatives advancing the Ocean and Coastal Zone 2030 Climate Solutions in Africa

- CORDIO East Africa
- International Oceans Institute African Region (IOI-SA)
- IUCN
- Oceans Sewerage Alliance
- Save our Mangroves Now
- Sea'ties - Ocean and Climate Platform
- UN-Habitat
- Western Indian Ocean Marine Science Association (WIOMSA)
- Wetlands International
- Wildoceans (a part of the Wildtrust)
- World Ocean Council
- WWF

<sup>16</sup> Survey respondents didn't express barriers or enablers for Ocean and Coastal Zones in Africa, therefore this section's content has been created by experts of the MPGCA-Ocean and Coastal Zones Thematic group.

## 7.2. Ocean and Coastal Zones solutions in Asia

Asian stakeholders have identified **Sustainable Marine Conservation, Mangroves** and **Shipping** as top three Ocean and Coastal Zones solutions. These priorities highlight the critical need to protect marine ecosystems, enhance coastal resilience and address emissions from the maritime sector. The regional analysis conducted by the UNFCCC on NDCs and NAPs regional priorities indicated that coastal zones are recognized as an adaptation priority in only 31% of the NAPs submitted in Asia, while this priority is absent

from current NDCs. This creates an opportunity for the integration of this sector into future updates to NDCs and NAPs, ensuring that national climate strategies tap into the mitigation and adaptation potential of ocean-based solutions.

Survey respondents in Asia identified the following barriers to and enablers of for the delivery of their Ocean and Coastal Zone priorities:

### Barriers:

- Low awareness among regional stakeholders about the crucial nature of sustainable coastal management.
- Under-development of existing systems for monitoring and evaluating coastal management, which can impede effective management practices.
- Insufficient enforcement of land use and spatial management policies, which presents a challenge to achieving long-term conservation goals for mangroves, corals and coastal marine ecosystems.

### Enablers and Recommended Actions:

- Foster community involvement and leadership in coastal management initiatives to enhance local engagement and stewardship.
- Implement and support participatory Marine Protected Area (MPA) management approaches, and integrate these practices into national sustainable development strategies with recognition from local and national governments.
- Improve policy frameworks to enhance monitoring, evaluation and enforcement mechanisms, thereby supporting sustainable coastal management more effectively.

### Leadership Story

#### Solomon Islands **Iriqila Community Marine Resource Management Plan**

Community-based marine management to support the local blue economy in Jorio, Vella Lavella, Solomon Islands: In response to a decline in sea cucumber fisheries, the Iriqila community created a marine resource management plan, using traditional closed marine areas, management rules and adaptive management through the monitoring of indicators to revitalize its marine ecosystem.

### Regional Platform for Climate Projects

#### Oman **Mangrove Seedling Cultivation**

Oman has developed a plan to cultivate one million mangrove seedlings, aiming to increase coastal biodiversity by 20–30%, absorb 3,140 tons of CO2 annually and protect 1,000 ha of coastline. The project, which involves 500–1,000 local residents and multiple non-governmental organizations, has achieved a 70–80% survival rate, enhancing mangrove coverage by 10–15% and supporting sustainable development.



Rodney Dekker / Climate Visuals

### Organizations or initiatives advancing the Water 2030 Climate Solutions in Asia

JATAM  
KORAL Coalition  
ReefWatch Marine Conservation

Save Sangihe Islands  
Save Spermonde Coalition  
WALHI

## 7.3. Ocean and Coastal Zones Solutions in Latin America and the Caribbean

**Marine Conservation, Coral Reefs, and Mangroves** were identified by Latin American and Caribbean stakeholders as their top three Ocean and Coastal Zones solutions. The regional analysis conducted by the UNFCCC secretariat on the priorities included in NDCs and NAPs indicates that coastal zones are recognized as an adaptation priority in only 47% of the NAPs submitted in the region; moreover, no NDCs mention ocean-based solutions as a mitigation strategy. This creates a huge opportunity to integrate

this sector into future updates to NDCs and NAPs, ensuring that national climate strategies tap into the mitigation and adaptation potential of ocean-based climate solutions.

Survey respondents in Latin America and the Caribbean identified the following barriers to and enablers of the delivery of their Ocean and Coastal Zones priorities:

### Barriers:

- Few infrastructure or commercial developments that effectively contribute to efforts to achieve food and water security, climate adaptation and mitigation.
- Lack of inclusion of participatory, nature-based approaches in legislative and policy frameworks.
- Perception that environmental protection may conflict with development goals.
- Financial barriers, including limited resources for nature-based solutions and difficulty in accessing funding at regional and international levels, with smaller economies perceived as riskier by lending agencies.

### Enablers and Recommended Actions:

- Align and clarify roles and improve their coordination in legislative and policy frameworks related to development, the environment and climate change.
- Integrate climate resilience and social inclusion into development control legislation and ensure the rigorous implementation of tools such as Environmental and Social Impact Assessments.
- Strengthen and expand access to funding and investment mechanisms at regional and international levels, which could significantly benefit small developing island States.
- Develop local training opportunities for research, management, and conservation of the marine environment to help build local expertise and capacity.

### Leadership Story

#### Guatemala, Belize, Mexico and Honduras **MAR Insurance Programme**

The MAR Insurance Programme provides financial resources to support reef response brigades, aiming to conserve and restore the Mesoamerican Coral Reef in Guatemala, Belize, Mexico and Honduras as swiftly as possible after hurricanes. This programme supports the resilience and sustainable livelihoods of more than 2 million people and produces USD 4.5 billion per year in economic value. The associated MAR+ Invest financing mechanism was established to develop and finance commercially viable projects that deliver positive outcomes for coral reefs. Its early achievements include the Carbonwave investment, which funds the upcycling of sargassum seaweed into value products. Projects such as carbon credits and aquaculture are currently in the pipeline.



### Organizations or initiatives advancing the Ocean and Coastal Zone 2030 Climate Solutions in LAC

- Ambition Loop
- Assuremas
- Aurem cm-g
- Auremoca
- Fondation pour la Protection de la Biodiversité Marine
- Green July
- Gulf and Caribbean Fisheries Institute (GCFI)
- Interamerican Association for Environmental Defense (AIDA)
- Leibniz Centre for Tropical Marine Research (ZMT) GmbH
- UNEP Caribbean Environment Programme





# Industry

Halfway in the crucial decade to 2030, industrial decarbonization is at a critical juncture with key trends emerging across Asia, Latin America and Africa.<sup>17</sup> The industrial sector currently accounts for approximately 30% of global GHG emissions<sup>18</sup>, making it a crucial focus of climate action. Non-State actors are increasingly driving change across these regions, but the speed of progress urgently

needs to increase. The 2030 Climate Solutions outlined in this chapter address regional challenges through targeted approaches. In exploring these solutions, it becomes clear that a collaborative, regionally tailored approach, centred around non-State actors, will be key to achieving deep reductions in emissions and the increased resilience needed in the industrial sector by 2030 and beyond.

<sup>17</sup> Survey respondents didn't express priorities, barriers or enablers for Industry in any region, therefore this section's content has been created by industry experts of the Climate Champions Team and the UNFCCC Secretariat.

<sup>18</sup> <https://www.weforum.org/agenda/2024/06/industrial-sector-turning-net-zero-goals-into-practice/>

| Climate Solution           | 2030 Global Targets  | Source                                 |
|----------------------------|--|--|
| <b>Steel</b>               | Near-zero emission steel is the preferred choice in global markets, with efficient use and near-zero emission steel production established and growing in every region by 2030. 70 (near) zero emission steel plants operational by 2030, producing well over 100Mt of green steel per annum.  | 2030 Breakthrough; Breakthrough Agenda |
| <b>Cement/Concrete</b>     | Over 20 cement plants with Carbon Capture Utilization & Storage. Carbon intensity per tonne of cement produced is reduced from 616 (2020 baseline) to at least 463 kg CO <sub>2</sub> / t cement by 2030. Near-zero emission cement is the preferred choice in global markets, with efficient use and near-zero emission cement production established and growing in every region by 2030 | 2030 Breakthrough; Breakthrough Agenda |
| <b>Aluminum</b>            | 43% of aluminium production to come from recycling and 35% of all aluminium plants are low carbon by 2030.   | 2030 Breakthrough                      |
| <b>Metals &amp; Mining</b> | 60% reduction in operational emissions, while growing output of critical materials (up to 5x), ensuring highest ESG standards.   | 2030 Breakthrough                      |
| <b>Chemicals</b>           | 60% of global chemicals sector electricity use from renewable sources by 2030<br>At least 50-120 Mt of near zero emissions ammonia produced  | 2030 Breakthrough                      |
| <b>Plastics</b>            | 100% plastic packaging is reusable, recyclable, or compostable by 2025, and 2030 at the latest.  | 2030 Breakthrough                      |

| Climate Solution                         | 2030 Global Targets  | Source                            |
|--|--|-----------------------------------|
| <b>Technology-Based Carbon Removals</b>  | Carbon dioxide removals are responsibly scaled to remove 3.5 billion tonnes of carbon dioxide per year. 500 million tonnes of this must be stored for at least 100 years.  | 2030 Breakthrough                 |
| <b>Retail/Consumer Goods</b>             | Halve the environmental impact of shopping baskets by 2030.  | 2030 Breakthrough                 |
| <b>Apparel</b>                           | Secure 100% of electricity from renewable sources for owned and operated (Scope 2) emissions. Source 100% low climate impact materials ensuring that these do not negatively affect other sustainable development goals. | IndustryClimate Action Pathway    |
| <b>ICT/Mobile</b>                        | ICT: 80% of industry electricity use is decarbonized by 2030<br>Mobile: 70% of industry electricity use is decarbonized by 2030  | 2030 Breakthrough                 |
| <b>Pharma/Med Tech</b>                   | 95% of labs across major pharma and med tech companies are My Green Lab certified at the green level by 2030.  | 2030 Breakthrough                 |
| <b>Private Sector Resilient Planning</b> | 2,000 of the world largest companies have developed actionable adaptation plans.   | Sharm El Sheikh Adaptation Agenda |
| <b>Private Sector Net-Zero Planning</b>  | Target in development.   | Race to Zero                      |



# 8.1. Empowering the Continent: Africa's Decarbonization Journey

Africa stands at a critical juncture in its decarbonization journey. Facing unique challenges and opportunities, African nations are poised to leverage innovative strategies, sustainable infrastructure

and strategic partnerships while accelerating their transition to a low-carbon future, thus balancing economic growth with climate resilience.

## Barriers<sup>19</sup>:

- Inadequacies in infrastructure, essential utilities and clean energy sources, coupled with a heavy reliance on fossil fuels.
- Financial and market constraints, including restricted access to capital and reliable market intelligence for investors, which hinder investment in decarbonization efforts.
- Policy and regulatory gaps, namely a lack of comprehensive policies, incentives and regulations to support industrial decarbonization and inadequate enforcement mechanisms.
- Technical and capacity challenges, specifically limited technical expertise in climate-related fields, insufficient data and monitoring systems for emissions tracking and competing development priorities that strain available resources.

## Enablers and recommended actions:

- Develop tailored strategies that are culturally appropriate and consider local conditions, such as decarbonization approaches adapted specifically for the African context. Such efforts will be important to the realization of emerging market potential. For example, the compound adjusted growth rate (CAGR) of the green steel market in the Middle East and North Africa region is expected to reach approximately 38% during 2025–2030.
- Invest in sustainable infrastructure, such as climate-resilient urban areas, transportation networks and industrial facilities, particularly in energy-intensive sectors such as cement and steel.
- Increase access to climate finance, particularly funding for decarbonization initiatives; Africa will require an estimated USD 2.8 trillion for NDC implementation between 2020 and 2030.
- Encourage Public-Private Partnerships to co-fund projects, mitigate risks, facilitate knowledge exchange and enhance collaboration between stakeholders.

<sup>19</sup> <https://www.unep.org/resources/report/africa-environment-outlook-business>  
[https://www.afdb.org/sites/default/files/documents/publications/wps\\_no\\_363\\_growing\\_green\\_in\\_africa\\_barriers\\_and\\_enablers.pdf](https://www.afdb.org/sites/default/files/documents/publications/wps_no_363_growing_green_in_africa_barriers_and_enablers.pdf)  
<https://www.undp.org/africa/investment-insights>  
<https://www.afdb.org/en/knowledge/publications/african-economic-outlook>

## Leadership Stories

### Nigeria Dangote Cement

Dangote Cement has increased its use of alternative fuels, achieving a 4.3% thermal substitution rate in 2022. The company co-processed over 157,000 tons of waste in 2022, a 76% increase since 2021.

### South Africa Anglo American

Anglo American has developed the world's largest Hydrogen-powered Haul Truck, which is capable of carrying a 290-ton payload. With this project, the organization aims to replace diesel-powered trucks and thus reduce on-site diesel emissions by up to 80%.



Gulshan Khan / Climate Visuals

## Organizations or initiatives advancing the Industry 2030 Climate Solutions in Africa

Africa Adaptation Initiative (AAI)  
 Africa Business Leaders Coalition (ABLC)  
 Africa Carbon Markets Initiative (ACMI)  
 Africa Climate Business Plan (ACBP) – World Bank  
 Africa Green Hydrogen Alliance (AGHA)  
 Africa-EU Partnership  
 African Circular Economy Alliance  
 African Continental Free Trade Area (AfCFTA)  
 African Development Bank  
 African Energy Commission (AFREC)

African Union (AU) Agenda 2063  
 AGRA (Alliance for a Green Revolution in Africa)  
 Affirmative Finance Action for Women in Africa (AFAWA)  
 Common Market for Eastern and Southern Africa (COMESA)  
 Economic Community of West African States (ECOWAS)  
 EU-Africa Global Gateway Investment Package  
 Global Africa Business Initiative (GABI)

## 8.2. Harnessing the Dragon: Asia's Path to a Green Future

Asia remains a powerhouse of global growth. Despite China-led, headline-making growth in the renewable energy sector, and especially solar energy, Asia's decarbonization journey remains challenging. Rapid economic growth and increasing demand for energy

necessitate innovative strategies, including renewable energy adoption and technological advancements, to achieve ambitious climate goals while ensuring sustainable development.

### Barriers<sup>20</sup> :

- Inadequate infrastructure to support the clean energy transition, coupled with a heavy reliance on coal-fired power plants. Specifically, coal usage in Southeast Asia is expected to peak in 2027, with Indonesia and Vietnam accounting for 90% of regional production.
- Financial and technological constraints, namely limited access to financial resources and technology to support clean energy projects. The region will need at least USD 367 billion over the next five years to meet its decarbonization commitments.
- Insufficient policies, regulations and enforcement mechanisms to encourage decarbonization. Only six economies in Asia and the Pacific have strengthened their NDCs since COP 26.
- Significant knowledge gaps with respect to the benefits of decarbonization and technical implementation. Lack of research and development, technology and expertise are seen as major obstacles.

### Enablers and recommended actions:

- Technology adoption, specifically natural (i.e., renewables) and technological options (e.g., carbon capture, utilization and storage - CCUS, green hydrogen) across Asia, especially in the Middle East. Eastern Asia and the Pacific are expected to lead the global CCUS market with a projected compound adjusted growth rate (CAGR) of 13.62% during 2023–2028.
- Develop stricter national and regional policies, namely measures, incentives and budgetary support, to drive industry transitions. Implement the principles of a circular economy and improve waste management.
- Use Public–Private Partnerships to generate momentum for transformative practices, addressing gaps in financing, innovation and risk-taking.
- Plan climate-resilient industrial facilities and invest to upgrade existing infrastructure. To implement its NDCs, Asia will need an estimated USD 1.7 trillion annually between 2016 and 2030.

### Leadership Stories

#### South Korea **POSCO**

POSCO is developing hydrogen reduction technology intended to replace coal in steelmaking, aiming to produce 500,000 tons of hydrogen-based, hot briquetted iron by 2026 and 7 million tons by 2050 to achieve carbon neutrality. It has become the first organization in Asia with a manufacturing site certified by ResponsibleSteel.

#### Malaysia **PETRONAS**

PETRONAS is constructing Asia's largest advanced chemical recycling plant, which will have a capacity of 33 kt per annum, in Pengerang, Johor (Malaysia). Supporting circular economy initiatives, the plant will use Plastic Energy's patented technology to convert end-of-life plastics into pyrolysis oil used to create recycled plastics.



### Organizations or initiatives advancing the Industry 2030 Climate Solutions in Asia

GFANZ-Asia Pacific  
Solutions for Our Climate (SFOC)  
Climate Integrate  
The Climate Group

Climate Catalyst  
Tara Foundation  
Asia Investor Group on Climate Change (AIGCC)  
Carbon Trust Asia

<sup>20</sup> [https://www3.weforum.org/docs/WEF\\_Closing\\_the\\_Climate\\_Action\\_Gap\\_2023.pdf](https://www3.weforum.org/docs/WEF_Closing_the_Climate_Action_Gap_2023.pdf)  
<https://www.reportingasean.net/decarbonization-the-southeast-asian-way/#~:text=Given%20Southeast%20Asia%E2%80%99s%20realities%2C%20its%20decarbonization%20policies%20still,or%20protecting%20peatlands%2C%20which%20are%20natural%20carbon%20sinks>

## 8.3. The Potential for Green Revolution in Latin America and the Caribbean

Having set ambitious targets for decarbonization, energy efficiency, electrification and circular economic principles, Latin American and Caribbean countries are feeling the pressure of their global and national decarbonization commitments and the need for faster

action. These countries are poised to leverage their unique strengths in renewable resources, as well as and innovative technologies, to accelerate their transition to a low-carbon future in which economic growth and climate resilience are balanced.

### Barriers<sup>21</sup>:

- High upfront costs associated with low-carbon technologies.
- Lack of supportive policy frameworks and clear long-term regulations, which has led to uncertainty regarding industrial investment in decarbonization.
- Limited access to finance and green funding mechanisms, which has hindered the implementation of large-scale decarbonization projects.
- Insufficient technical expertise and a lack of skilled labour, which has slowed the pace of new low-carbon technology adoption and implementation.
- Concerns about international competitiveness, which have discouraged companies from making bold decarbonization commitments.

### Enablers and recommended actions:

- Improving energy efficiency could reduce energy consumption in Latin America by 10% by 2030, saving USD 64 billion. In the cement industry, using best technologies could cut energy use by 20–30%.
- Industrial electrification could reduce CO2 emissions by 200 million tonnes annually by 2040. In Brazil, electrifying low- and medium-temperature heat applications could reduce industrial emissions by 15% by 2050.
- Implementing circular economy principles could generate USD 4.5 trillion in economic opportunities by 2030. For example, increasing the use of scrap metal in steel production from 30% to 50% could reduce CO2 emissions by 30-40 million tonnes annually.
- CCUS could reduce emission in the cement and chemicals industries by up to 90%. Currently, only three3 large-scale CCUS projects are operational or in development in the region.
- Transitioning to heavy industries could reduce emissions by 30% by 2050. Using bio-based feedstocks in chemicals could cut reduce emissions by 20–25% compared with fossil-based alternatives.

### Leadership Stories

#### Mexico CEMEX

CEMEX is pioneering the use of alternative fuels in its cement kilns across Latin America. In Mexico, this company has achieved an alternative fuel substitution rate of 60% in some plants, the highest in the region. It thus has significantly reduced fossil fuel consumption and associated emissions.

#### Brazil Suzano

Suzano invested USD 4Bn on Cerrado Project to build a low-carbon plant - amongst the few worldwide with biomass gasification technology to substitute fossil fuel on the lime kiln and optimized logistics. Through an IFC Sustainability Linked Loan, Suzano committed to restore biodiversity and contribute to lift people out of poverty.



### Organizations or initiatives advancing the Industry 2030 Climate Solutions in LAC

Acción Empresas  
ANDI  
CEBDS  
CNI  
Consumer Goods Forum

FICEM  
GLC  
Nexus +1  
UNGC

<sup>21</sup> <https://publications.iadb.org/en/net-zero-deep-decarbonization-pathways-latin-america-challenges-and-opportunities>  
<https://www.weforum.org/agenda/2024/08/clean-hydrogen-latin-america/>  
[https://decarboost.com/wp-content/uploads/2022/06/Challenges-and-Opportunities-for-the-Decarbonization-of-Latin-America\\_HIGH.pdf](https://decarboost.com/wp-content/uploads/2022/06/Challenges-and-Opportunities-for-the-Decarbonization-of-Latin-America_HIGH.pdf)  
[The challenges of climate mitigation in Latin America and the Caribbean: Some proposals for action \(undp.org\)](https://www.unep.org/resources/report/the-challenges-of-climate-mitigation-in-latin-america-and-the-caribbean-some-proposals-for-action)  
[Net-zero deep decarbonization pathways in Latin America: Challenges and opportunities \(sciencedirectassets.com\)](https://www.sciencedirect.com/science/article/pii/S0959652623000000)

# Annex 1

## 2030 Climate Solutions Top 3 Priorities by Region

| Energy                          |              |       |                           |       |                            |       |
|---------------------------------|--------------|-------|---------------------------|-------|----------------------------|-------|
| Region                          | Top Priority |       | 2nd Priority              |       | 3rd Priority               |       |
| Africa                          | Clean Power  | 22.9% | Electrification           | 10.8% | Justice and Affordability  | 8.3%  |
| Asia                            | Clean Power  | 52.9% | Justice and Affordability | 29.4% | Energy Adaptation Planning | 5.9%  |
| Latin America and the Caribbean | Clean Power  | 50.0% | Justice and Affordability | 15.0% | Energy Adaptation Planning | 10.0% |

| Finance                         |                                  |       |   |       |                                    |       |
|---------------------------------|----------------------------------|-------|---|-------|------------------------------------|-------|
| Region                          | Top Priority                     |       | 2nd Priority                                |       | 3rd Priority                       |       |
| Africa                          | Finance for Developing Countries | 42.8% | Concessional Finance for Developing Economy | 15.8% | MDB Financial for Green Transition | 10.5% |
| Asia                            | Finance for Developing Countries | 35.7% | Finance for Adaptation                      | 14.3% | Finance for Net Zero               | 7.1%  |
| Latin America and the Caribbean | Public Finance Adaptation        | 57.1% | Finance for Developing Countries            | 14.3% | MDB Finance Adaptation             | 14.3% |

| Land-Use                        |  |       |  |       |  |       |
|---------------------------------|--|-------|--|-------|--|-------|
| Region                          | Top Priority                             |       | 2nd Priority                               |       | 3rd Priority                               |       |
| Africa                          | Sustainability and Resilient Agriculture | 40.0% | Nature-based Solutions for Mitigation      | 33.3% | Halting Deforestation, Investing in Nature | 13.3% |
| Asia                            | Sustainability and Resilient Agriculture | 40.0% | Nature-based Solutions for Mitigation      | 20.0% | Halting Deforestation, Investing in Nature | 15.0% |
| Latin America and the Caribbean | Sustainability and Resilient Agriculture | 43.8% | Halting Deforestation, Investing in Nature | 25.0% | Nature-based Solutions for Mitigation      | 18.8% |

| Human Settlements               |                                    |       |                                       |       |                            |       |
|---------------------------------|------------------------------------|-------|---------------------------------------|-------|----------------------------|-------|
| Region                          | Top Priority                       |       | 2nd Priority                          |       | 3rd Priority               |       |
| Africa                          | Early Warning Systems              | 17.6% | Open Waste Burning                    | 17.6% | Built Environment          | 17.6% |
| Asia                            | Planning and Locally-led Principle | 26.7% | Cities and Regions Resilient Planning | 26.7% | Resilient Health Solutions | 13.3% |
| Latin America and the Caribbean | Cities and Regions Resilient Plan  | 53.8% | Planning and Locally-led Principle    | 15.4% | Energy Adaptation Planning | 15.4% |

## 2030 Climate Solutions Top 3 Priorities by Region

| Transport                       |  |       |                               |       |  |       |
|---------------------------------|--|-------|-------------------------------|-------|--|-------|
| Region                          | Top Priority                           |       | 2nd Priority                  |       | 3rd Priority                           |       |
| Africa                          | Road Transport (Pass. Vehickes & Vans) | 44.4% | Road Transport (Buses & HDVs) | 33.3% | Resilient Transport                    | 22.2% |
| Asia                            | Resilient Transport                    | 33.3% | Road Transport (Buses & HDVs) | 33.3% | Road Transport (Pass. Vehickes & Vans) | 33.3% |
| Latin America and the Caribbean | Green Shipping                         | 40.0% | Resilient Transport           | 40.0% | Road Transport (Pass. Vehickes & Vans) | 20.0% |

| Ocean and the Coastal Zones     |                     |       |              |       |              |       |
|---------------------------------|---------------------|-------|--------------|-------|--------------|-------|
| Region                          | Top Priority        |       | 2nd Priority |       | 3rd Priority |       |
| Africa                          | Marine Conservation | 100%  |              |       |              |       |
| Asia                            | Marine Conservation | 50.0% | Mangroves    | 16.7% | Shipping     | 16.7% |
| Latin America and the Caribbean | Marine Conservation | 60.0% | Coral Reefs  | 20.0% | Mangroves    | 20.0% |

| Water                           |                             |       |                        |       |                        |       |
|---------------------------------|-----------------------------|-------|------------------------|-------|------------------------|-------|
| Region                          | Top Priority                |       | 2nd Priority           |       | 3rd Priority           |       |
| Africa                          | Food-Water Nexus            | 37.5% | Climate Resilient WASH | 25.0% | Funding Water          | 25.0% |
| Asia                            | Climate Resilient WASH      | 36.4% | Food-Water Nexus       | 27.3% | Fresh Water            | 18.2% |
| Latin America and the Caribbean | Water and Wastewater System | 70.0% | Food-Water Nexus       | 20.0% | Climate Resilient WASH | 10.0% |

# Annex 2

## 2030 Climate Solutions Priorities compared to NDCs/NAPs Priorities by Regions

Top 10 Mentioned 2030 Climate Solutions by Africa Stakeholders through 2030 Climate Solutions Survey

|           |   |
|-----------|---|
| Energy    | Clean Power                                   |
| Energy    | Electrification                               |
| Energy    | Justice and Affordability                     |
| Finance   | Finance for Developing Countries              |
| Land Use  | Sustainable and Resilient Agriculture         |
| Land Use  | Nature-Based Solutions for Mitigation         |
| Energy    | Clean Cooking                                 |
| Energy    | Oil & Gas                                     |
| Transport | Road Transport (Pass. Vehicles & Vans)        |
| Finance   | Concessional Finance for developing economies |

Top 10 Mentioned 2030 Climate Solutions by Latin America and Caribbean Stakeholders through 2030 Climate Solutions Survey

|                         |  |
|-------------------------|--|
| Energy                  | Clean Power                                |
| Finance                 | Public Finance Adaptation                  |
| Water                   | Water and wastewater systems               |
| Land Use                | Sustainable and Resilient Agriculture      |
| Human Settlements       | Cities and Regions resilient planning      |
| Land Use                | Halting deforestation, investing in Nature |
| Land Use                | Nature-Based Solutions for Mitigation      |
| Energy                  | Justice and Affordability                  |
| Ocean and Coastal Zones | Marine Conservation                        |
| Energy                  | Cooling                                    |

Top 10 Mentioned 2030 Climate Solutions by Asia Stakeholders through 2030 Climate Solutions Survey

|                         |  |
|-------------------------|--|
| Energy                  | Clean Power  |
| Land Use                | Sustainable and Resilient Agriculture              |
| Energy                  | Justice and Affordability                          |
| Finance                 | Finance for Developing Countries                   |
| Land Use                | Nature-Based Solutions for Mitigation              |
| Water                   | Climate Resilient WASH                             |
| Human Settlements       | Cities and Regions resilient planning.             |
| Human Settlements       | Planning and Locally-led principles for Adaptation |
| Land Use                | Resilient Natural Landscapes                       |
| Ocean and Coastal Zones | Marine Conservation                                |

Share of Parties Referring to Frequently Indicated Mitigation Options in NAPs

| Sector                                | African Group | Asia-Pacific Group | Latin America and the Caribbean (LAC) Group |
|---------------------------------------|---------------|--------------------|---|
| Energy                                | 65%           | 46%                | 27%   |
| Mobility/transportation               | 24%           | 23%                | 13%   |
| Human settlements                     | 59%           | 46%                | 27%   |
| Infrastructure                        | 47%           | 62%                | 53%   |
| Industry                              | 12%           | 15%                | 0%  |
| Agriculture                           | 88%           | 69%                | 80%   |
| Biodiversity                          | 29%           | 54%                | 67%   |
| Fisheries/aquaagriculture             | 47%           | 23%                | 33%   |
| Food system                           | 18%           | 31%                | 40%   |
| Forests                               | 59%           | 15%                | 40%   |
| Coastal Zones                         | 53%           | 31%                | 47%   |
| Disaster prevention/reduction         | 12%           | 54%                | 20%   |
| Health                                | 59%           | 77%                | 67%   |
| Sustainable and resilient territories | 0%            | 31%                | 20%   |
| Tourism                               | 29%           | 31%                | 13%   |
| Water resources                       | 94%           | 77%                | 87%   |

UNFCCC secretariat. 2023. Nationally determined contributions under the Paris Agreement - Synthesis report by the secretariat. Bonn: UNFCCC secretariat. Available at <https://unfccc.int/documents/632334>



## 2030 Climate Solutions Priorities compared to NDCs/NAPs Priorities by Regions

### Share of Parties referring to frequently indicated mitigation options in NDCs

| Sector                         | Mitigation Options                            | African Group | Asia Group | LAC Group |
|--------------------------------|---|---------------|------------|-----------|
| Energy Supply                  | Renewable energy generation                   | 96%           | 93%        | 79%       |
|                                | Grid improvement                              | 55%           | 45%        | 24%       |
|                                | Energy efficiency improvement                 | 36%           | 48%        | 36%       |
|                                | Cross-cutting                                 | 11%           | 13%        | 18%       |
|                                | Shift to low- or zero-carbon fuels            | 38%           | 34%        | 24%       |
| Transport                      | Energy efficiency improvement                 | 47%           | 64%        | 36%       |
|                                | Cross-cutting                                 | 42%           | 41%        | 30%       |
|                                | Electrification                               | 43%           | 61%        | 55%       |
|                                | Shift to more efficient modes of transport    | 58%           | 52%        | 39%       |
|                                | Shift to low- or zero-carbon fuels            | 42%           | 45%        | 45%       |
| Buildings                      | Energy efficiency improvement                 | 83%           | 73%        | 55%       |
|                                | Shift to low- or zero-carbon fuels            | 72%           | 39%        | 39%       |
| Industry                       | Energy efficiency improvement                 | 40%           | 46%        | 18%       |
| AFOLU                          | Cross-cutting                                 | 68%           | 36%        | 39%       |
|                                | Afforestation, reforestation and revegetation | 81%           | 55%        | 67%       |
|                                | Sustainable forest management                 | 49%           | 39%        | 42%       |
|                                | Reduced deforestation and forest degradation  | 58%           | 21%        | 64%       |
|                                | Improved management of manure and herds       | 40%           | 38%        | 45%       |
|                                | Land restoration                              | 43%           | 25%        | 45%       |
|                                | Improved agricultural productivity            | 36%           | 25%        | 33%       |
|                                | Agroforestry                                  | 40%           | 23%        | 52%       |
|                                | Improved cropland management                  | 42%           | 25%        | 30%       |
|                                | Forest conservation                           | 26%           | 30%        | 36%       |
| Improved fertilizer management | 30%   | 30%           | 12%        |           |

| Sector               | Mitigation Options                        | African Group | Asia Group | LAC Group |
|----------------------|---|---------------|------------|-----------|
| Waste                | Waste recycling                           | 32%           | 39%        | 21%       |
|                      | Waste reduction                           | 17%           | 30%        | 21%       |
|                      | Waste-to-energy                           | 51%           | 43%        | 36%       |
|                      | Cross-cutting                             | 40%           | 38%        | 30%       |
|                      | Composting                                | 47%           | 25%        | 30%       |
| Cross-cutting/ other | Multisector energy efficiency improvement | 32%           | 52%        | 42%       |
|                      | Multisector carbon pricing                | 13%           | 21%        | 18%       |
|                      | Promotion of circular economy             | 9%            | 21%        | 21%       |
|                      | Multisector fluorinated gas substitution  | 11%           | 11%        | 9%        |

UNFCCC secretariat. 2023. Nationally determined contributions under the Paris Agreement - Synthesis report by the secretariat. Bonn: UNFCCC secretariat. Available at <https://unfccc.int/documents/632334>

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## List of abbreviations

- CCUS:** carbon capture, utilization and storage
- COP:** Conference to the Parties
- GHG:** greenhouse gas
- MDB:** Multilateral development Bank
- NAP:** national adaptation plan
- NDC:** nationally determined contribution
- NSA:** Non-State Actors
- UNFCCC:** United Nations Framework Convention on Climate Change
- WASH:** Water Sanitation and Hygiene

Marrakech  
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