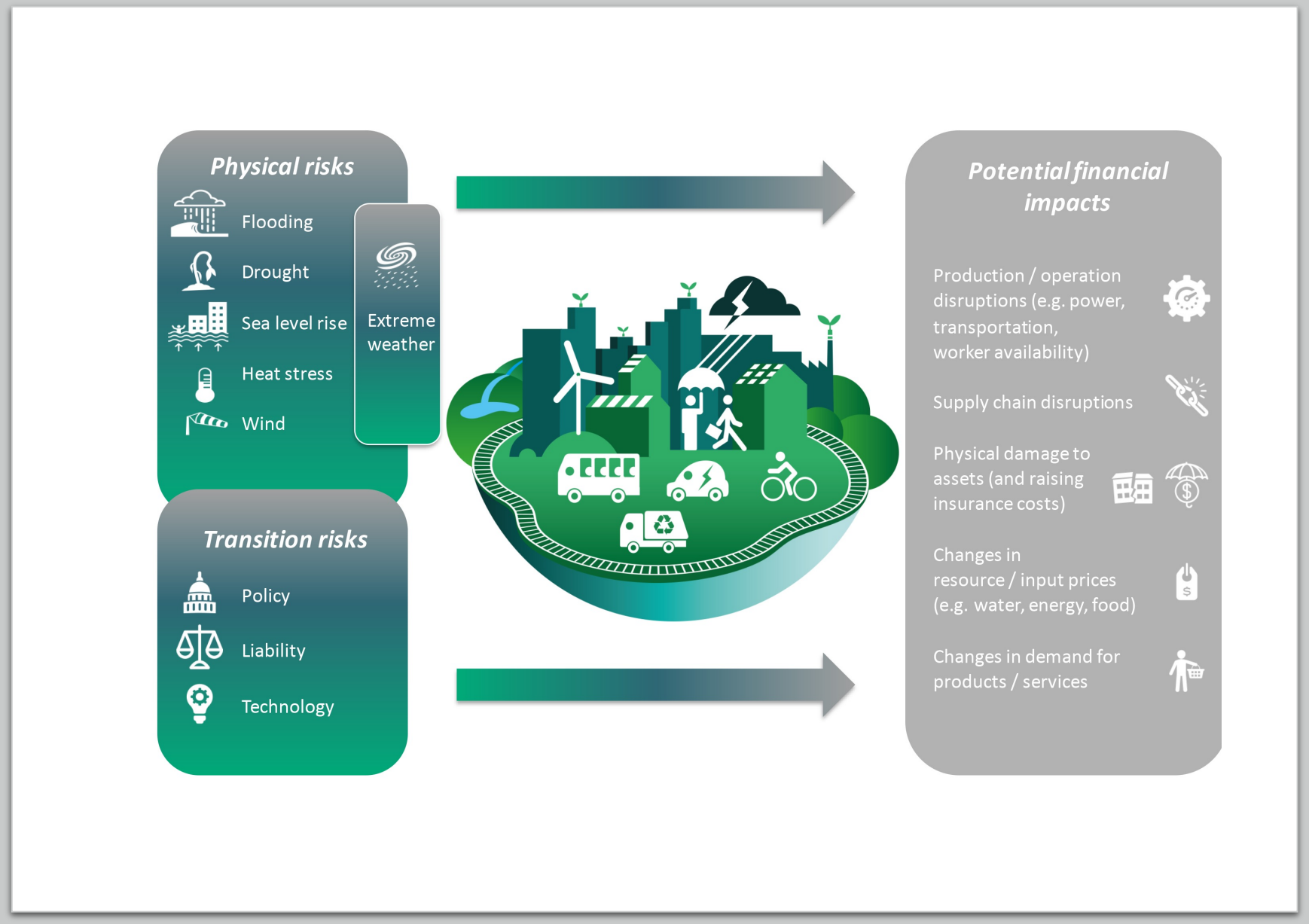
Wangara Green Ventures

Climate Change in West Africa

Regional Priorities for the Small and Growing Business (SGB) Sector

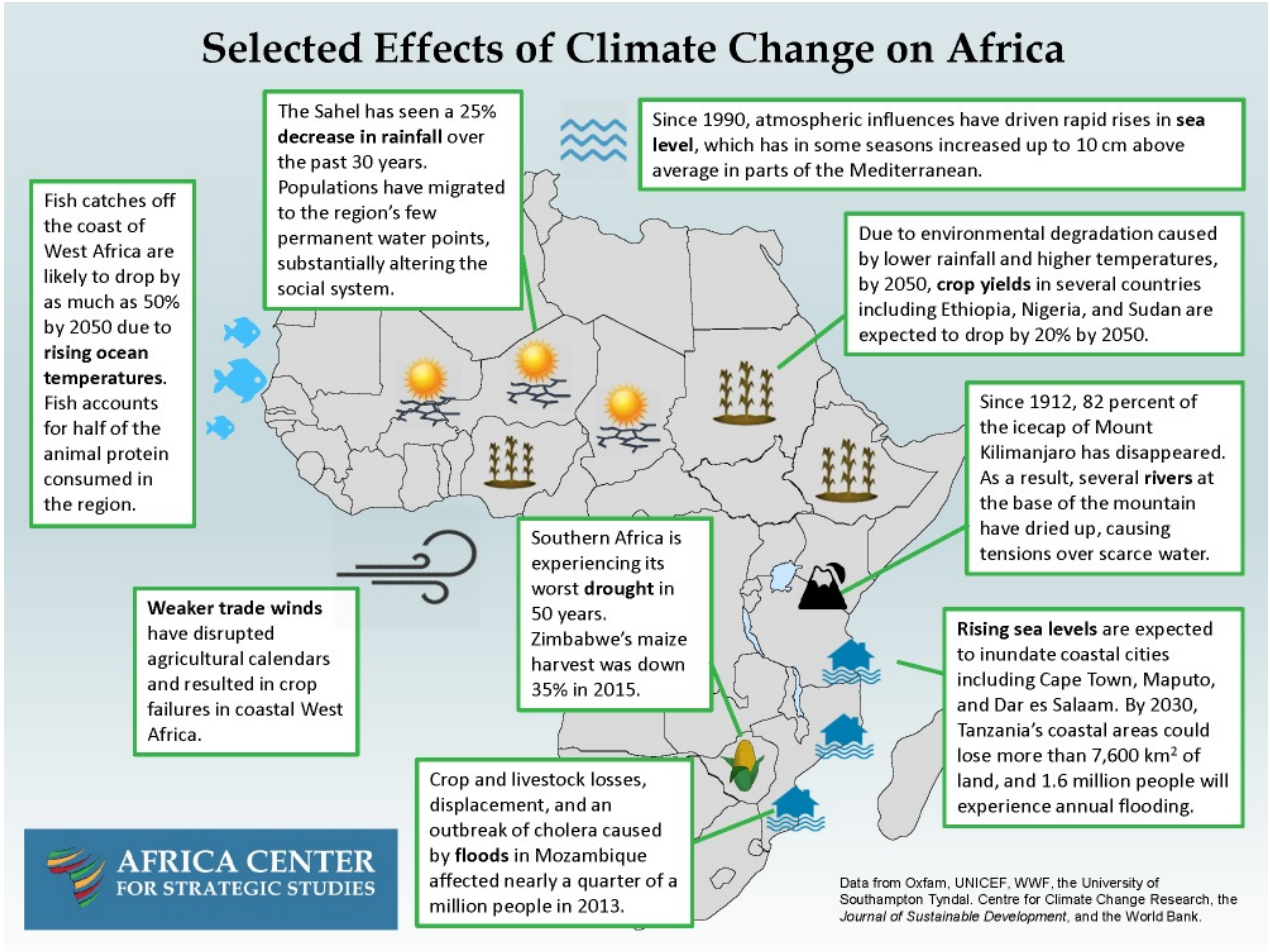
Climate risk is real and diverse.

It has both financial and non-financial impacts



Climate Physical Risk is expected to have an adverse impact on African countries

- Extreme weather conditions
  - Droughts
  - Floods
  - Decreased rainfall
  - Higher temperatures
  - Rising ocean temperatures
  - Rising sea levels
  - Weaker trade winds
- Lower crop, livestock and fish yields (Food Security)
- Mass migration
- Conflict over resources

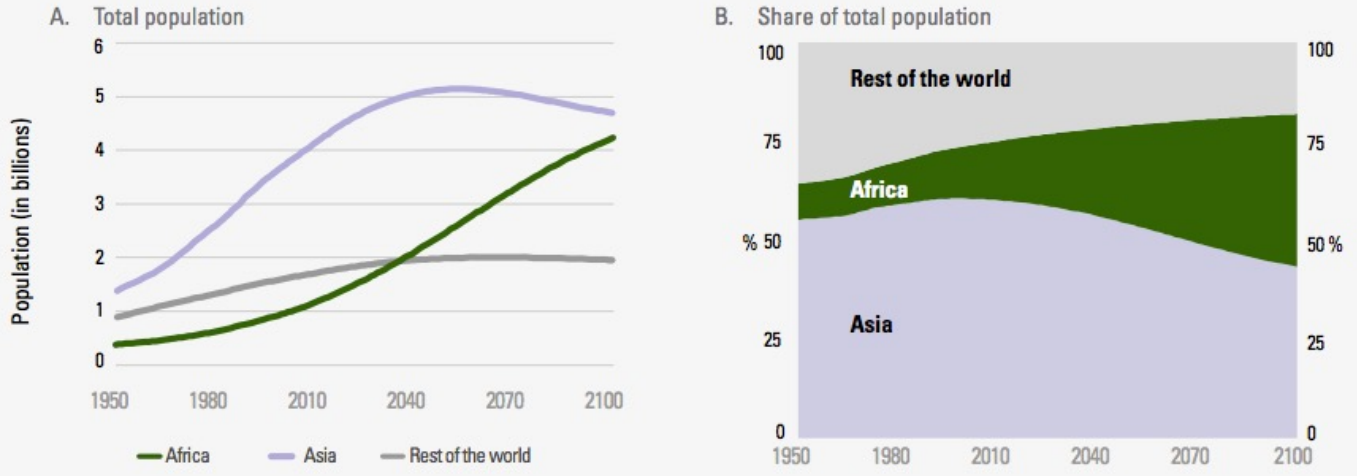


The Youth Bulge in Africa

FIG. 1

Africa's population will double from 2015 to 2050

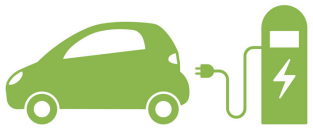
Total population by region, 1950–2100

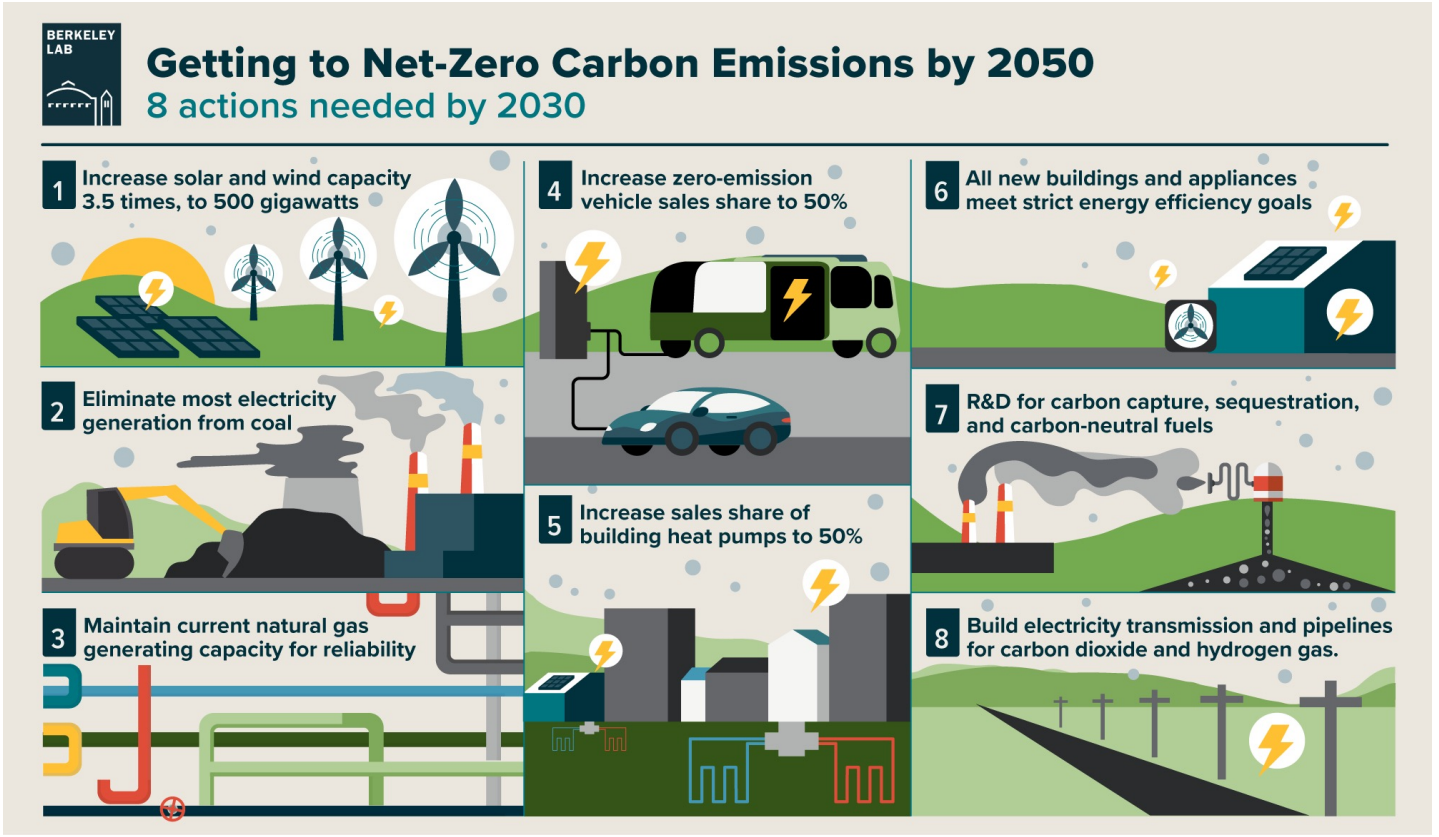


Source: UNICEF analysis based on United Nations, Department of Economic and Social Affairs, Population Division, World Population Prospects: The 2012 Revision (UN WPP), United Nations, New York, 2013.

Net-Zero Transition

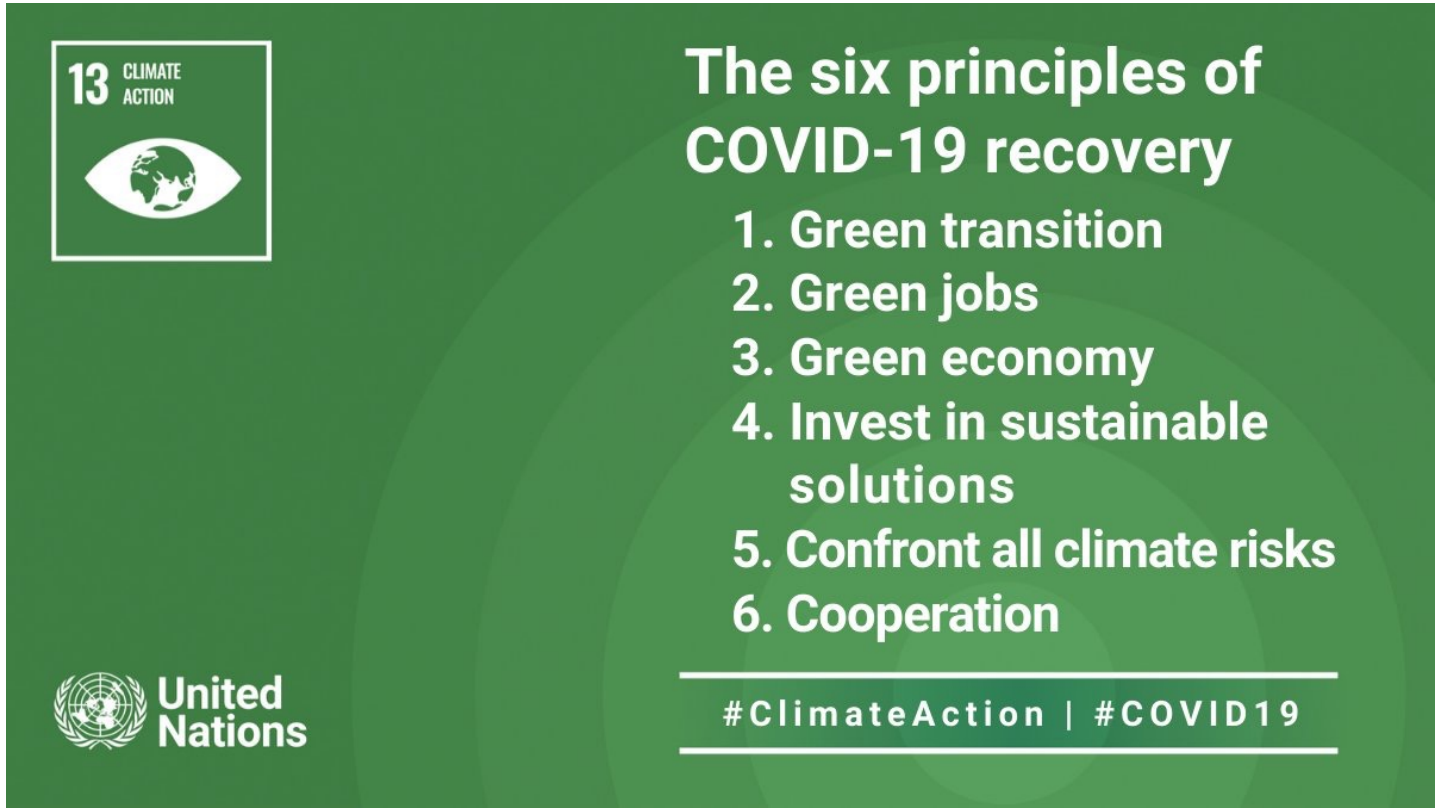
RACE TO ZERO





COVID-19 (Green Recovery)

UN CLIMATE CHANGE CONFERENCE UK 2021
IN PARTNERSHIP WITH ITALY



Climate change and these other trends create an urgent need for climate adaptation and resilience in the West African sub-region

Climate Adaptation, Mitigation & Resilience

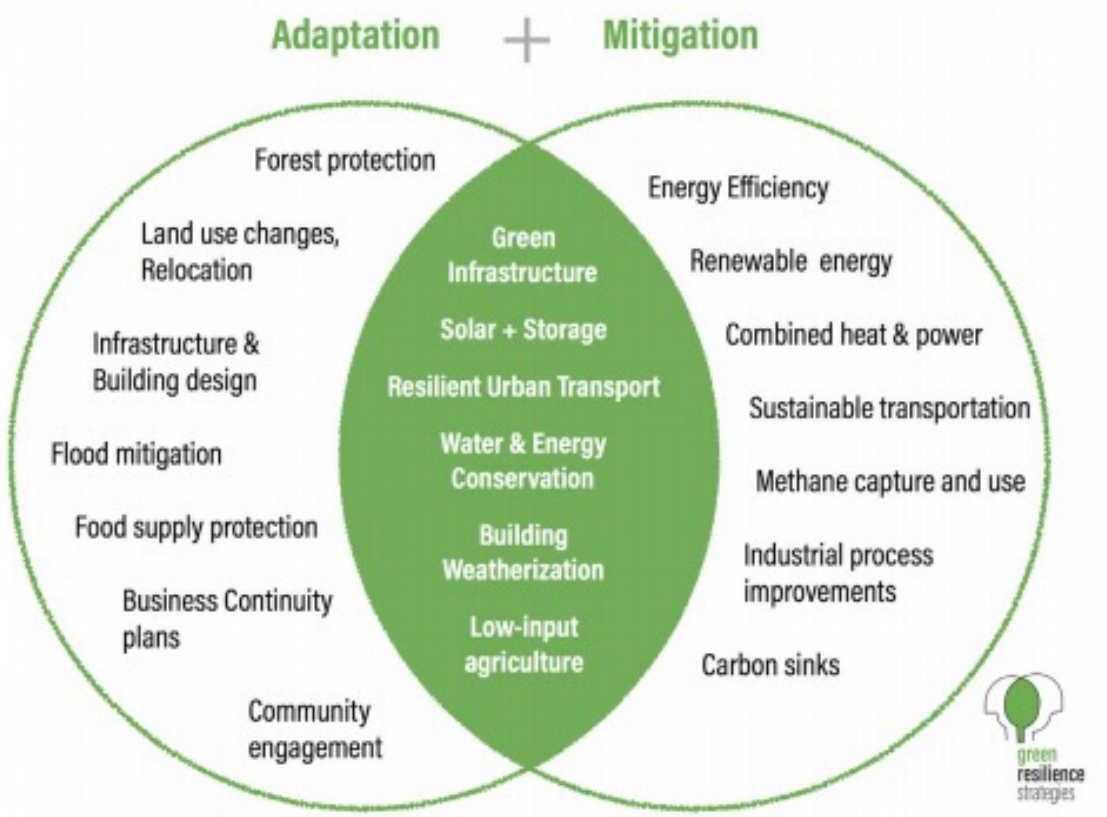
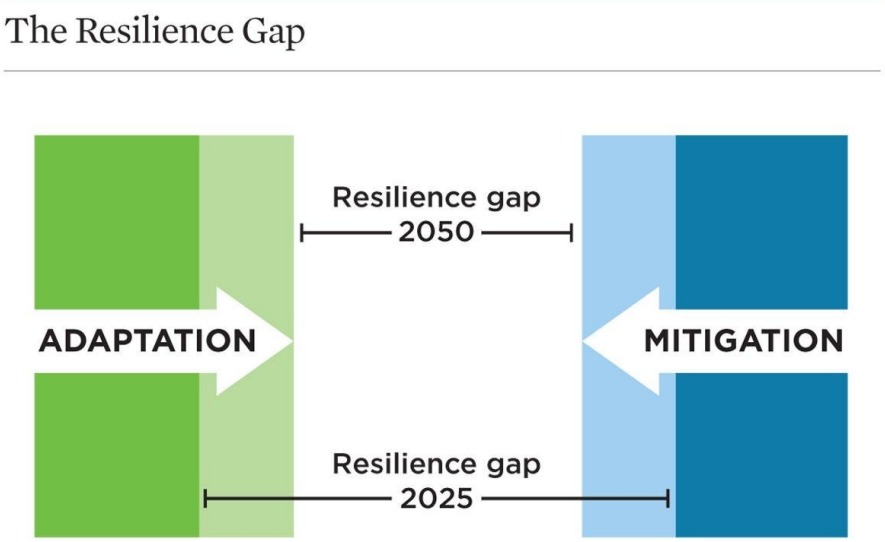


Figure 1: Climate Adaptation and Mitigation Synergies
Green Resilience Strategies (2017)
Graphic concept modified with acknowledgement of David MacLeod, City of Toronto



The "resilience gap" represents the degree to which a community or nation is unprepared for damaging climate effects—and therefore the degree to which people will suffer from climate-related events. The arrows show the two ways to narrow the gap. We can adapt (left arrow) by preparing for climate impacts, and mitigate carbon emissions (right arrow) to slow the pace at which climate risks grow more severe or more common over time. The changing size of the resilience gap in 2025 versus 2050 conveys the potential for society's resilience gap to be narrowed, though not eliminated, through concerted effort on both fronts.

UNFCCC CTCN

A policy-driven classification
Taxonomy of the UNFCCC Climate Technology Centre & Network

ASAP

+ The Climate Technology Centre & Network (CTCN), whose mandate is to "stimulate technology cooperation and enhance the development and transfer of technologies to developing country Parties at their request", developed a taxonomy of adaptation technologies defined as: ***"Any equipment, techniques, practical knowledge and skills needed for adapting to climate change***

Sector	Technology Groups		Technology Examples	
Early Warning and Environmental Assessment	• Remote sensing & GIS • Hazard mapping • Early warning system • Monitoring systems	• Improved weather forecasting & hydrometeorological networks	• Seasonal to interannual weather forecast • Disaster risk assessment tools • Hazard mapping solutions	• Flood hazard mapping • Early Warning Systems Communication • Flood forecasting systems • …
Agriculture and Forestry	• Terrestrial ecosystems management • Agro-forestry, Silviculture & Mixed farming • Seed, grain & food storage	• Increasing crop resilience and productivity • Livestock management • Land management training	• Crop storage • Precision agriculture • Soilless agriculture • Improved cultivation techniques	• Aeroponic seed production • …
Water	• Water efficiency and demand management • Adaptation planning • Water augmentation (increasing capture and storage of surface run-off) • Hydropower • Water Pollution • Riverine flood protection	• Urban storm water management • Water storage • Use of alternative water sources • Integrated planning • Limiting nutrient leakage • Water allocation	• Hazard mapping • seasonal to interannual weather forecast • Disaster risk assessment tools • Irrigation efficiency and information systems • Leakage management in piped systems • Water efficiency in industry	• Open source climate data and tools • Climate change vulnerability assessment • Downscaling of climate model projections • Embedding climate variability in hydropower design • …
Human health	• Emergency medical services • Advanced IT systems in the health sector	• Public health services • Vaccination programs • Vector-borne disease	• Disease surveillance systems • E-Health • Rapid diagnostic tests	• Malaria protection and prevention programs • …
Infrastructure & urban planning	• Ground surface material • Sewerage infrastructure • Land use in human settlements • Building design and material • Urban design and spatial planning	• Grid resiliency • Building construction • Water supply infrastructure • Urban planning • Building codes • Resilient transport systems	• Engineered cementitious composite (ECC) • Urban infrastructure development • Warm-mix asphalt • Resilient railway systems	• Resilient road systems • Urban infrastructure development • Elevated buildings
Coastal zones	• Retreat • Accommodation • Integrated coastal zone management	• Protection (hard & soft engineering)	• Flood warning systems • Coastal setbacks • Managed realignment • Flood and cyclone shelters	• Floating houses • Management of seagrass beds • …
Marine and fisheries	• Active motion-dampening systems for marine port • Seaweed farming • Marine protected areas	• Fisheries management • Artificial reefs • Aquaculture management	• Active motion-dampening systems for marine ports • Seaweed farming • Marine protected areas	• Fisheries management • Artificial reefs • Aquaculture management • …

Source: CTCN (2017) I CTCN Taxonomy – Adaptation Sector; CTCN (2016), CTCN: Mandate, services offered, and operative lessons learned.

https://climateasap.org/

Determining what is an Adaptation Solution

ASAP Adaptation SME Accelerator Project

Climate Vulnerabilities Addressed by Adaptation SMEs in LAC

Sector	Climate Vulnerability	Adaptation & Climate Resilience Solution	Example Countries
Water	Drought, water scarcity	Water-efficient irrigation, water analytics	Brazil, Colombia, Mexico, Peru, Barbados
Agriculture	Drought stress, temperature/humidity impact	Agricultural analytics, crop insurance, precision agriculture, risk transfer	Brazil, Peru, Argentina, Chile, Costa Rica, Ecuador, Uruguay
Supply Chain	Supply chain disruption by weather events, fires, flooding	Supply chain analytics with weather analytics; parametric insurance	Bolivia, Honduras, El Salvador, Venezuela
Energy	Power disruption from storms, wildfires; hydropower shortfall from drought	Energy storage; microgrids; advanced hydropower modeling	Brazil, Mexico, Nicaragua, Guatemala
Healthcare	Shifts is water-, air-, and insect-borne disease; heatstroke; respiratory ailments	Disease surveillance; medical diagnostics	Mexico, Brazil, Argentina, LatAm Regional

Source: ASAP-LAC Study (2020).

https://climateasap.org/

Ghana's NDCs Priority Economic Areas

1. Sustainable Land Use & Food Security;
2. Climate Proof Infrastructure;
3. Equitable Social Development;
4. Sustainable Mass Transport;
5. Sustainable Energy Security;
6. Sustainable Forest Management; and
7. Alternative Urban Waste Management

Case Study: Ghana's Climate Priorities

Case Study: Ghana Climate SGB Priority Sectors

The Ghana Climate Innovation Centre (GCIC) Business Plan developed by the infoDev team of the World Bank identified key priority sectors for Ghana with regards to SGBs.

These sectors form the basis of the work of the GCIC and Wangara Green Ventures (Ghana Climate Venture Facility).

Renewable Energy

Energy Efficiency

Climate Smart-Agric

Waste Management

Water Management

Eco-Friendly Businesses

Gaps, barriers and solutions should be considered in relation to five thematic areas

ACCESS TO FINANCE

ENTREPRENEURSHIP AND VENTURE ACCELERATION

POLICY AND REGULATORY SUPPORT

MARKET GROWTH AND ACCESS

TECHNOLOGY AND PRODUCT DEVELOPMENT

Financial

ADAPTATION FUND

GREEN CLIMATE FUND

gef

Wangara Green Ventures

RDF GHANA LBG

Nigeria Climate Innovation Centre

Climate Innovation Centre Ghana

innohub Connecting, Inspiring and Transforming.

KOSMOS

GREEN economy

COP 26 GLASGOW

Wangara Green Ventures is a climate focused fund

- Launched in 2019 with $1.5m Catalytic funding from the **World Bank**
- Targeting minimum fund size of **$10m**
- Invest in **25+ green SGBs** in next 10 years
- Committed **$1.85m to 6 SGBs** since 2020

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Wangara Green Ventures

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