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UN COMMON COUNTRY ANALYSIS (CCA) 2024 UPDATE

CLIMATE FINANCING AND POLICY RECOMMENDATIONS

POLICY BRIEF

Acknowledgments

This policy brief was authored by **Dr Shamshad Akhtar**, former Under Secretary-General of the United Nations Economic and Social Commission for Asia and the Pacific (UNESCAP) and former Governor of the State Bank of Pakistan, and **Mr Memosh Khawaja**, former Chief Executive Officer of the Pakistan Institute of Corporate Governance (PICG). It was commissioned by the **United Nations Environment Programme (UNEP)** and developed under the overall leadership of the **United Nations Country Team (UNCT)**, headed by the **United Nations Resident Coordinator** in Pakistan. Its elaboration was supported by the **UN Resident Coordinator's Office (RCO)**, particularly the RCO Economist.

This policy and analytical brief complements the broader **UN Common Country Analysis (CCA)**, serving as an update for 2024. A comprehensive CCA was developed by the United Nations Country Team (UNCT) in Pakistan in 2021, which has been updated every year since. Recognizing the increasing urgency of climate-related challenges, this **2024 CCA update** provides an in-depth examination of Pakistan's climate financing landscape – including climate financing gaps, opportunities and strategic pathways for sustainable development.

Through its evidence-based insights and recommendations, this brief aims to inform policy discussions and decision-making by policymakers, financial institutions and development partners to support Pakistan's transition towards climate resilience and sustainable financing solutions.

The insights in this brief have been made possible by extensive collaboration between key stakeholders, including valuable inputs from colleagues across various UN agencies in Pakistan, and the expertise of the authors. Special thanks are due to UNEP for funding this initiative and supporting efforts to strengthen Pakistan's climate financing strategy.

Disclaimer

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1. Approach and methodology

The objectives of this report are being achieved through detailed investigative research that addresses the following broad issues:

First, how adequate has Pakistan's climate finance generation to-date been to meet its climate mitigation and adaptation targets and challenges? How does Pakistan's climate finance generation, the needs and the gap compare with other countries in similar climate vulnerability band and with countries of similar socio-economic profile? These questions have been answered in the context of the criticality of addressing Pakistan's climate issues, in terms of the heightened economic burden and social challenges they are likely to affect.

Second, how do we assess Pakistan's climate financing landscape, opportunities, and challenges? This is investigated considering the global financing landscape, capturing various sources and instruments used for climate finance, and the different objectives and sectors being addressed through financing. It is further investigated whether there are any global and regional challenges for climate finance to reach developing countries, and whether there are any structural differences in Pakistan's climate financing sources in comparison to better performing countries of similar profile. How effective is Pakistan's data, reach and communication strategy and practice towards climate financing sources? How does Pakistan stack up against climate finance sources' requirements related to economic risk profile, governance, ecosystem, etc.? What are the domestic climate financing sources that remain untapped? Are there any gaps in Pakistan's use of climate finance instruments versus its potential opportunities across sectors, and versus those used by other successful countries of similar profile? What are the internal prerequisites and external requirements to leverage such financial instruments, and how well geared is Pakistan towards leveraging these?

Finally, what are low hanging strategies towards Pakistan's climate finance journey in terms of sectors, sources, and instruments? Which are Pakistan's unique opportunities which could position it strongly towards both international and domestic sources of climate finance? How should Pakistan streamline its overarching constraints to facilitate acceleration of access to climate finance? What are the pathways to realize these opportunities including responsibilities of key stakeholders?

The methodological framework used to achieve the research objectives are as follows:

Detailed review of relevant literature:

- Study of existing global, regional and Pakistan climate finance related macro reports in detail published by various multilateral and bilateral institutes, public and private institutions, and independent analysts. The aim of study of these reports will be to obtain key climate finance related data and facts, to identify key players in the ecosystem, to

establish relevant process flows, and serve as the basis for establishing the climate finance landscape.

- Study of prospectuses of main climate finance sources, including private and public, and international and domestic sources. The aim of review of these documents will be to understand the priorities, scale, scope and deployment strategies and processes of these climate finance sources. This will also include study of innovative climate finance solutions being implemented globally and relevant to Pakistan.

Broad-based stakeholder engagement:

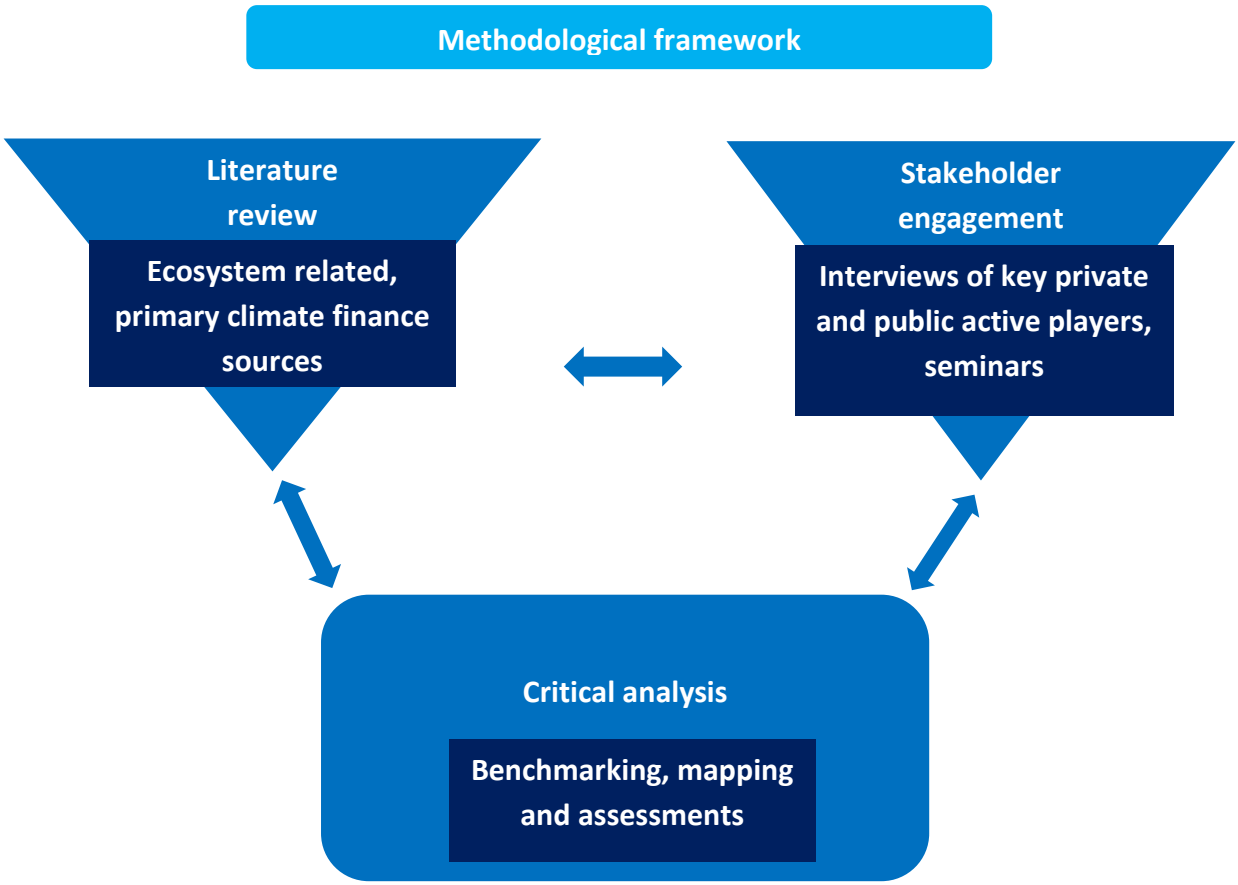
The objective of stakeholder engagements will be to understand triggers and barriers, to obtain deeper perspectives and insights, and to verify facts where possible. Some of the engagements foreseen are:

- Engagement with key private sector climate finance sources including corporations and financial institutions actively engaged in the climate finance process.
- Engagement with selected multi-lateral organizations active in Pakistan's current climate finance activity.
- Engagement with selected identified current and potential ecosystem stakeholders including the government, business associations, regulators, capital market players, non-governmental organizations, civil society, etc.
- Attendance of key climate finance international and local events including conferences and webinars to obtain relevant insights towards the project.

The above engagements will be carried out in the form of short and long interviews, or via attendance to live or recorded discussions, online or in person.

Critical analysis of insights obtained:

- Prepare climate finance sources landscape, in terms of type, size, objectives, criteria, mechanisms, etc.
- Conduct 'gap to Pakistan' analysis including size, categorization of gap by source and activity. This will include benchmarking with relevant countries.
- Assess Pakistan's prevailing ecosystem to identify key overarching barriers, opportunities, and strategies towards climate finance.


Methodological framework
Literature review
Ecosystem related, primary climate finance sources
Stakeholder engagement
Interviews of key private and public active players, seminars
Critical analysis
Benchmarking, mapping and assessments

2. Pakistan's climate financing need gap

The World Bank has estimated that the total investment needs for a comprehensive response to Pakistan's climate challenges between 2023 and 2030 amount to approximately US$348 billion (or 10.7% of cumulative GDP for the same period). This consists of US$152 billion (44%) for adaptation and resilience and US$196 billion (56%) for de-carbonization.

Pakistan's mitigation financing goals are pegged to the ambitious goal of reducing projected emissions by 50% by 2030, by adopting 60% of energy mix from renewable sources, by targeting 30% of new motor vehicle sales to be electric vehicles by 2030 and by banning imported coal. At the same time, Pakistan's adaptation focus prioritizes the agricultural sector which contributes approximately 20% to its GDP, its natural capital in terms of forests, water systems, coastal resources, and air quality, its urban (55% contribution to GDP) resilience, and its human capital, particularly in the areas of health, education, and training.

A retrospective review of the level of funding in recent years suggests that climate financing flows level attained in Pakistan has been significantly short of its needs. While over the past decade the average annual climate financing received is estimated at US$1.4–2.0 billion, in 2021 climate financing attained was approximately US$4 billion. Pakistan's financing composition profile is distinct and skewed in terms of sources and objectives, for example, in 2021 the share of public climate financing was 69% vs 31% from private, and the share of international climate financing was 84% vs. 16% from domestic sources. Domestic private financing share of Pakistan's climate financing at 5% lags its share in developing countries climate financing composition (see table 01).

Table 01: Countries' climate finance % of sources of flow comparison

	India	Kenya	Nigeria	Pakistan
Private - Domestic	51%	14%	10%	5%
Private - International	6%	27%	8%	26%
Public - Domestic	34%	28%	12%	11%
Public - International	9%	31%	71%	58%

Based on climate financing as per CPI country reports (2018-2021)

At the same time, financing flows for Pakistan comprised mainly (79%) of mitigation actions out of total climate finance flows in 2021. This was mainly due to investments in renewable energy generation, albeit below potential, which was pushed through the State Bank of Pakistan's renewable energy financing scheme.

Looking deeper into international public adaptation finance flows, based on an analysis of developed countries adaptation financing of developing countries during the period of 2017–2021, within the South Asia region India received the highest absolute adaptation finance (US$7.5 billion) followed by Bangladesh (US$4.3 billion) and Pakistan (US$2.3 billion). India, Bangladesh, and Philippines ranked as the top 3 recipient countries of international public adaptation finance while Pakistan ranked as the 8th highest recipient country during this period (see table 02).

Table 02: Top 10 recipient countries of international public adaptation finance – comparative analysis, 2017–2021

Country	Finance Received	Ranking		
	US$ bn.	Absolute finance	Per capita finance	GDP per capita*
India	7.49	1	9	4
Bangladesh	4.33	2	4	5
Philippines	3.83	3	3	7
Indonesia	3.47	4	7	9
Ethiopia	2.9	5	5	1
Nigeria	2.64	6	6	6
Kenya	2.57	7	2	3
Pakistan	2.26	8	8	2
China	2.17	9	10	10
Morocco	2.08	10	1	8

* GDP per capita ranking is done in ascending order, and year 2019 is used as the median point of the overall period analysed

In terms of GDP per capita Pakistan ranks as the second highest deserving country, however, the absolute and the per capita international public adaptation finance recipient ranking of Pakistan at 8th has been very low. Bangladesh (7th) and Philippines (4th), countries comparable to Pakistan (8th) in terms of climate vulnerability, who although have stronger GDP per capita profile, have received significantly better international public adaptation finance flows than Pakistan.

The 2021 climate financing value represents a staggering 8X gap vs the average annual total climate finance needs for Pakistan until 2030. Given Pakistan's population, its climate financing flows and hence the gap stands at an adverse position vs. other African and Asian countries (see table 03). Analysis of peer group comparison shows that Pakistan's climate finance flows per capita are significantly less than those of South Africa, Kenya, and India, and that with respect to climate financing gap Pakistan is grossly underserved vs. Indonesia as well.

Table 03: Country peer group climate finance flows and gap comparison (based on annual figures)

	South Africa	Kenya	India	Pakistan	Indonesia	Nigeria
Absolute financing flows (US$ billion)	3	2	44	4	5	2
Flows per capita (US$)	56	46	32	17	17	9
Absolute financing flows gap (US$ billion)	17	7	170	34	27	20
Gap (expressed as multiple of flows)	5x	3x	4x	8x	6x	10x
Gap (expressed as % of GDP)	5%	7%	6%	8%	3%	5%

Note: Based on climate financing gap as per National NDCs and CPI country reports (2018–2021)

Furthermore, because of currently lopsided financing flows vs. its needs, the gap for adaptation financing needs at 16 X is disproportionate vs. the mitigation financing needs gap at 5X.

Global climate finance landscape

As per Climate Policy Institute, the global annual climate finance flows reached almost US$1.4 trillion in 2022 (see table 04), more than doubling compared to 2020 levels. The climate financing value is approximately equally divided among private and public sources. Development finance institutions (DFIs) provided most of the public climate finance in 2022, committing US$410 billion (56% of public climate finance) of which national DFI's remained the largest (65%) source followed by multilateral and bi-lateral DFIs. State-owned enterprises and governments remained the next highest sources of public climate finance with 18% and 15% contribution respectively to total public climate finance. The private climate finance market is equally dominated by financial institutions, corporations, and households.

Table 04: Global climate flows (US$ billions) in 2022

Total Global Climate Flows		**1415**
Private	Commercial Fis	247
	Households / individuals	222
	Corporations	203
	Others	13
	Total	**685**
Public	National DFIs	268
	SOEs	133
	Governments	106
	Multilateral DFIs	104
	State-owned Fis	77
	Bilateral DFIs	38
	Multilateral Climate Funds	2
	Total	**730**

Source: Climate Policy Institute

Most climate financing (~90%) is directed towards mitigation activities and the overall growth is also largely due to an increase in mitigation finance. For mitigation, the largest growth and contribution (two-thirds of 2021–22 value) of climate finance has been towards the renewable energy and transport sectors. Global adaptation financing levels were at US$63 billion in 2022. Adaptation finance has been dominated by public actors (98%) and almost half of the tracked adaptation finance went to the water and waste-water sector.

Geographically, East Asia and the Pacific, Western Europe, and the United States of America and Canada formed the largest share (~80%) of destination regions for total climate finance in 2021–22. While a large majority (84%) of global climate financing has been raised and spent domestically, most developing Central Asia and Eastern Europe, Latin America and the Caribbean, Middle East, and North Africa, and South Asia had a more balanced split between domestic and international climate finance flows. The South Asian region received ~US$45 billion in climate finance during the year 2022 out of which ~US$6 billion were committed to adaptation activities. The South Asian region's adaptation financing was almost entirely received from international sources.

Globally, in 2021–22, debt was the most used climate financing instrument accounting for approximately 60% of total financing while low-cost or concessional financing, mainly driven by DFIs, accounted for only 10% of total debt used. 30% of climate financing is driven by equity, which is provided mainly by corporations and households. Grants form another 10% of the total climate financing used, mainly driven by governments and DFIs. Concessional lending and grants combined constituted US$24 billion, or 38% of tracked adaptation finance. DFIs together provided 93% of total concessional loans for adaptation, while governments were most prominent in grant financing for adaptation providing 49% of total adaptation grants.

The estimated global annual climate finance needed increases to US$9 trillion by 2030. While the global funding gap is large, taking a broader perspective on global spending reveals the feasibility of closing it: the global annual climate finance flows in 2022 represent about 1% of the total global GDP; the global military expenditure in 2022 was estimated at US$2.2 trillion; global fossil fuel subsidies in the same year reached US$7 trillion; and the International Monetary Fund (IMF) estimated that US$11.7 trillion in emergency fiscal measures were announced globally in 2020 in response to the COVID-19 pandemic.

Global climate adaptation finance landscape for developing countries

The average adaptation finance needs for all developing countries for 2021–2030 are estimated at US$387 billion per year. This is equivalent to 1% of these countries' GDP. The highest adaptation costs are in the sectors (with similar share of required cost) of river flood protection, infrastructure, coastal protection and for the regions of East Asia and the Pacific, and South Asia (cumulatively approximately two-thirds of total required cost). In the South Asia region, the highest finance needs are required by the water sector, accounting for 41%

of the total. The highest absolute costs are for the upper and lower-middle-income countries, but when expressed as a percentage of GDP, adaptation costs are much higher for low-income countries (3.5%) than for lower-middle (0.7%) or upper-middle (0.5%) countries. The South Asian region stands out as it not only has the second highest adaptation finance required (~US$100 billion) per annum for the period 2021–2030, but it is also the region with the highest adaptation finance required expressed as % of GDP (2.38%).

Total international public (from bilateral and multilateral sources) adaptation-specific finance towards developing countries is estimated at an average of approximately US$20 billion per year during 2017–2021. This represents approximately one-third of the total (with the majority being for mitigation) international public finance flows towards developing countries during this period. As regards to adaptation finance sources, multilateral banks (MDBs) were the highest providers with an approximately 50% share of the total during this period, followed by bilateral providers at 35%. Although the volume of financial commitments by multilateral climate funds (such as the Green Climate Fund, the Adaptation Fund, the Global Environment Facility and Climate Investment Funds) are low (approximately US$1 billion per year) compared to MDB and bilateral finance volumes, they play a significant role.

Amongst multilateral banks, the International Development Association (IDA), the International Bank for Reconstruction and Development (IBRD) and the Asian Development Bank (ADB) were the highest adaptation finance providers during this period (see table 05). In terms of sources of bilateral adaptation finance, the highest providing countries during this period were Japan, Germany, and France.

Table 05: Top 10 sources of international public adaptation finance, 2017–2021

Source	Source Type	Finance Commitments (US$ bn.)
International Development Association	Multilateral Development Bank	23.8
International Bank for Reconst. & Dev.	Multilateral Development Bank	11.88
Japan	Bilateral	10.25
Germany	Bilateral	8.64
France	Bilateral	6.3
Asian Development Bank	Multilateral Development Bank	4.19
EU Institutions (excluding EI Bank)	Bilateral	4.03
Global Climate Fund	Multilateral Fund	3.69
African Development Fund	Multilateral Development Bank	2.17
African Development Bank	Multilateral Development Bank	2.1

Source: Adaptation Finance Gap Update, UNEP - 2023

In terms of the shares of financial instruments used towards developing countries, 63% of all adaptation-specific finance between 2017 and 2021 was provided as debt instruments (loans) and 36% as grants. Of the total adaptation finance offered as debt instruments, 70% was from MDBs and 26% was from bilateral providers. Grant-based finance, on the other hand, came predominantly from bilateral sources (61%).

3. Pakistan: The context of climate change risk

While Pakistan ranks among the top 10 countries worldwide most affected by climate change and natural disasters, there is a significant probability of ever more climatic variability and extreme events. By the end of the twenty first century, the projected change in annual mean temperature is 4C+, a rate considerably above the global average. Over time, there is likely to be a partial collapse in the natural systems that underpin Pakistan's economy.

Macro-economic

In recent years, Pakistan's GDP growth has been volatile, averaging 6% in 2021 and in 2022, however it contracted to as low as -0.2% amongst the lowest in the region. In 2023, recovery emerged and growth is forecasted to be at 2.4% for 2024.

As per International Monetary Fund's staff report published in September 2024 under the Extended Fund Facility, despite positive indicators achieved over the past year, Pakistan's structural challenges largely remain unaddressed. The country's competitiveness has been impacted by extensive use of protection, subsidies, and tax concessions, leading to inefficiency and low productivity. Investment levels have remained lower than peer countries, driven by weak governance and a difficult business environment. Additionally, weak investment in human capital has affected labour productivity and Pakistan has not been able to take advantage of the significant increase in its population over the last four decades.

Social development

Furthermore, there has been insufficient investment in social sectors, especially with health and education lagging regional and lower-middle income peer countries, leaving issues of poverty (at 40%) and inequality unaddressed. For example, as per a 2022 World Bank report, learning poverty in Pakistan was at 18.3 percentage points higher than the average for the South Asia region and 16.6 percentage points higher than the average for lower middle-income countries. Overall, Pakistan faces a daunting unfinished agenda on human development, which compounds its structural macro fragility, currently ranking 141 out of 174 countries on the Human Capital Index, with a score of 41 out of 100.

The ND-Gain Index has ranked Pakistan as the 27th least ready country in the world to address the impacts of climate change. The poor are the most vulnerable as they are the most reliant on agriculture, livestock, fisheries, forests, and groundwater. Furthermore, Pakistan has limited access to social protection and disaster coping mechanisms.

Understanding variable socio-economic impacts of climate change in Pakistan

As per the World Bank country report 2022, as of 2019–20 data, significant variation on poverty rates exists across districts in Pakistan. Districts in South Punjab and North and Sindh have poverty rates between 26% and 3%, while districts in Southeast Sindh, most of Baluchistan and bordering areas between KP and Baluchistan have poverty rates between 40 and 60%. These areas are also deprived along many other dimensions – from schooling and access to health services to water and sanitation and access to electricity—making them more vulnerable to a range of hazards when and if they do strike. Furthermore, poverty level projections suggest that under a climate impact scenario, there will be no decline between 2020 and 2050 in the rural poverty levels.

The effects of Pakistan's heatwaves have a spatial distribution. The highest heat exposure is in the Central and Eastern Punjab region. Furthermore, the high temperatures in the northern areas pose a grave risk to the glaciers and can lead to dangerous glacial lake outburst flooding (GLOF). Frequent landslides and soil erosion often cut off these areas and put the population at risk of isolation and resource shortages. In terms of urban rural variability, urban heat islands (UHIs) occur in highly populated cities that lack natural cover and where dense concentrations of concrete, pavement, and buildings absorb and retain heat, compounded by heat from congested traffic and poor air quality. Extreme temperatures and air pollution can directly impact health.

A result of extreme heat, Pakistan is experiencing a significant increase in the frequency and severity of droughts. Droughts severely affect food security and frequently warrant humanitarian relief efforts in vulnerable districts throughout the country. In January 2019, 3 million people in Sindh and 1.8 million in Baluchistan, two provinces with the highest large-scale droughts frequency, were impacted by moderate to severe droughts when annual precipitation dropped by 24.4% relative to the expected rainfall.

As per an analysis of the spatial distribution of flood-related impacts on built-up assets and agricultural land, the largest exposure of agricultural lands to floods is in the floodplains of Punjab and parts of Sindh, the extent of the associated damage to infrastructure, crops, and livestock, and mortality and morbidity varying substantially with water depth, land use, and population density.

In the aftermath of the 2022 Pakistan floods, a social impact assessment was carried out by World Bank and UN Women to assess the socio-economic conditions of socially excluded and marginalized groups residing in flood affected areas. The assessment found that the livelihoods of home-based females, and on-farm and off-farm agriculture and dairy/livestock workers were disproportionately affected. The severest impacts were found to focus on precarious workers, specifically women, older people, people with disabilities, and landless farmers, and those associated with agricultural and livestock sectors.

Furthermore, damage to infrastructure also restricted casual labour opportunities, with women, transgender persons, and people with disabilities disproportionately affected. These impacts were seen to increase the likelihood that women will be pushed into poverty and increase gendered economic inequality.

Pakistan is also a long-standing host to refugees and Afghans in need of international protection, for access to essential health and education services. Pakistan's refugee population stands as critically exposed to climate-led events and requires particular attention within the climate financing agenda.

Pakistan's National Adaptation Plan 2023 highlights the importance of aligning adaptation plans with equity, prioritizing support for the most vulnerable people, places and infrastructure impacted by climate change. Two of the NAPs guiding principles focus on this issue; one addressing inequity through addressing the historical and systemic inequalities that have led to certain groups being more vulnerable to climate change impacts, and another highlighting the importance of fostering inclusivity by prioritizing participation of marginalized groups like women, children, indigenous groups, and persons with disabilities in decision-making.

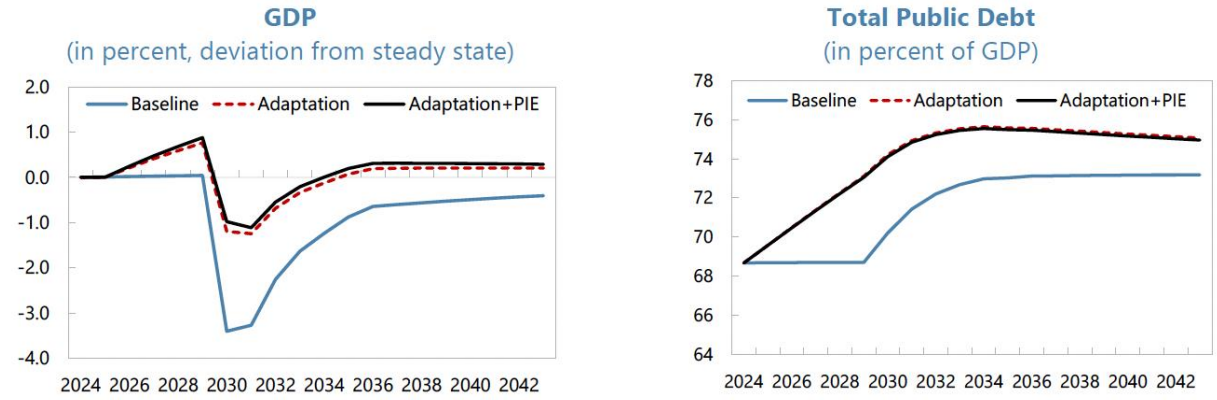
The Living Indus Programme, focusing on the future of the Indus Basin which forms the basis of Pakistan's economy, is the leading initiative for national adaptation planning and execution. Endorsed by the cabinet, it is designed to tackle the "triple planetary crisis" – climate change, biodiversity loss, and pollution – by restoring ecosystems and strengthening climate resilience. Through 25 interventions, the programme prioritizes mobilizing climate finance, enhancing natural infrastructure and implementing nature-based solutions to mitigate environmental degradation. By integrating scientific research with community-driven action, it aims to foster sustainable development and long-term environmental stewardship. With baseline funding of US$17 billion over 10 years, the Living Indus seeks to drive large-scale interventions in water conservation, afforestation and ecosystem restoration. It also focuses on improving governance frameworks for climate adaptation, as well as promoting public-private partnerships for sustainable financing. As such, it contributes significantly to Pakistan's Nationally Determined Contributions (NDCs) and the Sustainable Development Goals.

Pakistan's economic sensitivity to climate change

The combined risks from the intensification of climate change and environmental degradation, unless addressed, however, will aggravate Pakistan's socio-economic fragility and compromise its ambitions. Damage induced by climate-related extreme events will likely have economy-wide impacts on growth, the economy, employment (both in terms of longevity of workers and sustainability of workplaces), and poverty. Overall, between 18% to 20% of GDP will likely be lost per year by 2050 due to climate change.

Further to this, the International Monetary Fund's Dynamic Investment Growth and Natural Disasters (DIGNAD) model (see table 06) compares a status quo scenario with an adaptation investment scenario, offering perspective on policy choices related to building resilience to climate shocks. In the status quo scenario, assuming public investment remains at its steady rate, a climate shock in year six leads to a 3% decline in GDP which remains well below its steady state even 13 years after the shock. In the adaptation scenario it is assumed that an additional 1% of GDP on top of the conventional public investment ratio is invested in adaptation infrastructure, assuming additional finance is in line with Pakistan's current debt structure. The aftereffects of a climate shock in year six leads to negative deviations of GDP, private consumption, and private investment to the tune of one third of that in the status quo scenario. Furthermore, in the adaptation scenario, Pakistan's GDP returns to its steady state 5 years after the shock. Enhancements in public investment efficiency, in line with the C-PIMA Action Plan, would further improve such resilience, particularly in the immediate aftermath of the shock, albeit with moderately higher debt levels.

Table 06: DIGNAD climate shock simulation results



Sources: IMF staff estimates and projections.

The cost of inaction

As per the latest project of the Government of the United Kingdom delivered through the British Investment Partnerships 'Growth Gateway' programme, the projected total cost of climate inaction in Pakistan is estimated to be US$250 billion by 2030 and US$1.2 trillion by 2050. This is based on critical vulnerabilities faced by Pakistan as follows: population displacement, caused by damage to settlements and the cost of relocation; physical assets damage; and economic damages caused to agriculture crops, livestock, and textile sectors. The project assesses both direct costs including immediate financial losses like asset destruction, diminished labour productivity, etc., and indirect costs emerging from broader economic and social effects stemming from sector-specific losses.

As livestock accounts for 11% of Pakistan's GDP, and the industry is increasingly vulnerable to heat driven climate change impacts through livestock health, fertility and productivity, cost of climate inaction is expected to be 18% annual loss of livestock GDP by 2030.

Crop cultivation contributes 7% to Pakistan's GDP and the sector, particularly rice and wheat crops, is highly vulnerable to heat and drought induced climate change effects, like decreased labour productivity, reduced yields (expected to drop by up to 47% by 2050) and increased disease prevalence. The expected impact is 8% loss in agriculture crops GDP per year by 2030.

The textile industry is exposed to the potential impacts of climate change, upstream from drought, extreme heat, and flooding, and downstream from extreme heat (reducing worker productivity). More than 250,000 jobs are expected to be lost in textiles due to climate change.

It is estimated that floods induced damage to settlements and the cost of displacement could cumulatively cost US$80 billion by 2050. It is estimated that flooding and sea-level rise could displace approximately 90 million people by 2030 and 400 million people by 2050 across Pakistan.

Physical damage to logistics, power and social infrastructure would be another area under threat from floods and sea level rise related climate induced impacts. The logistics sector comprising of roads, airports, ports and particularly railways are areas of concern with relatively high expected cost of inaction.

4. Overview of Pakistan's climate governance system

In 2011, the Ministry of Climate Change was established. In 2023, it was renamed the Ministry of Climate Change and Environmental Coordination. After devolution of the subject to the provincial legislative ambit, provinces created their respective Environment Protection Departments, which have recently been renamed Environment Protection and Climate Change Departments. In 2012, Pakistan developed, and in 2021 updated, the National Climate Change Policy, which articulates the long-term country strategy highlighting thematic focus sectors and programmes. Provincial governments have followed up with draft or approved provincial climate change policies, as well as climate change action plans.

Box 01. Highlights – National Climate Change Policy: climate finance policy measures

The Government of Pakistan has outlined the following climate finance policy measures in the National Climate Change Policy published in 2021:

- Ensure that the sufficient funds are always available in recently established National Disaster Risk Management Fund (NDRMF) to cater to emergencies caused by natural disasters and for implementing the programmes and projects to reduce the risks from natural disasters.
- Continue to assess how best to position Pakistan vis-a-vis other groups of developing countries to secure adaptation funding.
- Ensure the access and effective use of opportunities available internationally for adaptation and mitigation efforts, for e.g. through the Green Climate Fund (GCF), Clean Development Mechanism (CDM), Adaptation Fund (AF), Global Environmental Facility (GEF), World Bank's Forest Carbon Partnership Facility (FCPF) and Carbon credit trading.
- Establish a "Pakistan Climate Change Fund" for financing climate change related projects.
- Continue to push for transparent delivery of new and additional fast start funding by developed countries.
- Develop public-corporate-civil society partnerships for financing and implementation of climate change adaptation and mitigation projects.
- Create domestic carbon market opportunities by introducing an appropriate investment framework linked with regional banking institutions.
- Explore the innovative private finance schemes, such as green bonds, blue bonds, nature bonds, etc.; and engage the provinces to set up the carbon pricing architecture.
- Set up the legal and regulatory instruments to operationalize the Emission Trading System (ETS).

In 2017, the Climate Change Act was passed, creating a legislative backing for the established climate governance institutional framework. The Nationally Determined Contribution (NDC) was amended in 2021 and provides generic and specific targets across thematic focus sectors in Pakistan. The National Adaptation Plan was also launched in 2023. The Pakistan Climate Change Authority has become operational in October 2024. Pakistan's National Climate Finance Strategy (NCFS) has been launched in November 2024.

Box 02. Pakistan's National Climate Finance Strategy: Framework and goals

The NCFS represents a comprehensive approach to mobilizing financial resources essential for Pakistan's climate adaptation, resilience, and transition objectives. The strategy is structured around three primary components:

- **Mobilizing financial resources**: Recognizing the limitations in international funding, Pakistan's NCFS aims to build robust financing channels. The strategy emphasizes strengthening the role of local governments and the private sector in financing climate actions. This approach includes identifying sectors where domestic investments can be scaled up, such as renewable energy and climate-smart agriculture.

- **Diversifying climate finance mechanisms**: The NCFS advocates for blending various finance sources, including concessional loans, green bonds, and blended finance models, to expand the range of funding available for climate projects. By doing so, Pakistan aims to make climate projects more attractive to international investors, particularly by aligning them with market standards and ensuring transparency.

- **Strengthening institutional capacity and coordination**: To manage and implement climate finance effectively, the NCFS emphasizes building the technical capacity of local and federal agencies. It proposes establishing a coordination platform for development partners to harmonize efforts, streamline resources, and build on institutional strengths. This platform is envisioned as a tool to ensure that resources reach priority areas, reducing redundancies and enhancing accountability.

The NCFS also includes sector-specific financing plans, such as the development of a transformative carbon facility focused on the water sector. Developed in partnership with the World Bank, this facility will enable Pakistan to create measurable, creditable outcomes while meeting international standards. These project-ready frameworks are crucial for securing global financing in line with Pakistan's Nationally Determined Contributions (NDCs) and climate adaptation targets.

Furthermore, the National Disaster Management Authority (NDMA) was established in 2007 because of the deadly 2005 earthquake, and it continues to exist as a parallel body alongside the Ministry of Climate Change and Environmental Coordination. This was followed up by the National Disaster Management Act in 2010 which established the National Disaster Management Commission (NDMC). Since devolution, Provincial Disaster Management Authorities (PDMAs) and District Disaster Management Authorities (DDMAs) have also been established. For information on the ongoing Living Indus Programme, see page 11, above.

Table 07: Pakistan's climate governance system

Legislative		Administrative		Policies and plans	
Federal	Provincial	Federal	Provincial	Federal	Provincial
Pakistan Environment Protection Act, 1997	Provincial Environmental Protection Acts	Ministry of Climate Change, 2011	Provincial Environment Protection Departments	National Climate Change Policy, 2012 and 2021	Provincial Climate Change Policy
National Disaster Management Act, 2010		National Disaster Management Authority, 2007	Provincial and District Disaster Management Authorities	Nationally Determined Contribution, 2021	Provincial Climate Action Plans
Climate Change Act, 2017		Pakistan Climate Change Authority, 2024		National Adaptation Plan, 2023	

Despite existence of administrative structures and policy documents, stakeholders believe that there is no clear articulation of climate priorities at the national and provincial levels. The National Climate Change policy and the provincial policies, respectively, have noticeable differences in recognition of challenges, stated policies and prioritization of actions. Additionally, in some provinces, climate change policies have still not been approved, nor the implementation action plans, without which sectoral adaptation and mitigation is not possible. The National Adaptation Plan has high level adaptation priorities that are not broken down into regional and detailed sectoral priorities. There is no scientific basis to determine the main adaptation and resilience measures required in Pakistan, for instance, based on detailed modelling of climate risk and impact across sectors.

Similarly, high level sectoral targets and objectives exist in the NDCs for mitigation, however, these targets are not time bound and do not have detailed activities and roadmaps to ensure success. There is a need to build institutional capacity on climate finance to leverage the support provided by external stakeholders. An effort towards synergizing all climate finance data via centralized dashboard to avoid duplication and enhance effectiveness of various initiatives is strongly desired. For stronger deployment and continuity of climate finance pipeline, there is a need for standardized assessment frameworks for climate finance linked to relevant, transparent metrics.

5. Climate financing sources

5a. Multilateral climate funds

Multilateral climate funds play a quantitatively small but an important role in supporting developing countries to adopt low-emission, climate resilient development trajectories. They have a role in capacity building, research, piloting and demonstrating new approaches and technologies, and removing barriers to other climate finance flows. Their heterogeneity, complexity and differing access criteria puts limits on the ability of developing countries to tap into available funds, however, these funds are progressing best practices for enhancing climate finance access through readiness support programmes and simplified approval processes.

i. Green Climate Fund (GCF)

The Green Climate Fund (GCF) was established under the Cancun Agreements in 2010 as a dedicated financing vehicle for developing countries within the global climate architecture, serving the Financial Mechanism of the UNFCCC and the Paris Agreement. It is the world's largest climate fund, mandated to support developing countries raise and realize their Nationally Determined Contributions (NDC) ambitions towards low-emissions, climate-resilient pathways.

The fund has to-date committed US$16 billion to projects approved by its board out of which US$12 billion are in implementation stage. The fund's focal areas are on enabling the following transitions – built environment; energy and industry; human security, livelihoods, and wellbeing; and land-use, forests, and ecosystems, by employing a four-pronged approach:

- Transformational planning and programming: by promoting integrated strategies, planning and policymaking to maximize the co-benefits between mitigation, adaptation, and sustainable development.
- Catalysing climate innovation: by investing in new technologies, business models, and practices to establish a proof of concept.
- De-risking investment to mobilize finance at scale: by using scarce public resources to improve the risk-reward profile of low emission climate resilient investment and crowd-in private finance, notably for adaptation, nature-based solutions, least developed countries (LDCs) and small island developing states (SIDS).
- Mainstreaming climate risks and opportunities into investment decision-making to align finance with sustainable development: by promoting methodologies, standards and practices that foster new norms and value.

Key features of the GCF programme are as follows: a) a country-driven approach, which means that developing countries lead GCF programming and implementation, b) operating through a network of over 200 accredited entities and delivery partners who work directly with developing countries for project design and implementation, c) structuring its financial support through a flexible combination of grants (40% of its portfolio), concessional debt (40%), guarantees (3%) or equity instruments (12%) to leverage blended finance and crowd-in private investment for climate action, d) through a mandate to invest 50% of its resources to mitigation and 50% to adaptation in grant equivalent, and at least half of its adaptation resources to be invested in the most climate vulnerable countries (SIDS, LDCs, and African States).

To ensure its funds would be easier to access, GCF has launched an internal reform initiative called 'Efficient GCF' focused on re-examining project review and approval processes.

In Pakistan, the GCF has currently 10 approved projects (out of which 2 are multi-country projects) in implementation stage with a financing value of approximately US$300 million in both mitigation and adaptation activities (see table 08). The direct country projects have a project value of ~US$1 billion out of which GCF has committed to finance ~25%. For these projects, the GCF has deployed grants (67%) as the major financing tool followed by equity (15%) and concessional loans (14%). The Karachi Green BRT is the largest project GCF is engaged with in Pakistan with a project value of US$583 million, however with a 10% financing share. The GCF projects in Pakistan are mainly being executed by multilateral agencies, however, two GCF accredited agencies in Pakistan, namely the National Rural Support Programme (NRSP) and the JS Bank Limited, are also implementing partners in two of the projects.

Table 08: Profile of active exclusive GCF projects in Pakistan

Project Name	**Climaventures**			**Recharge Pakistan**	**Distributed Solar**		**Karachi Green BRT**	**GLOF**	**Total**
Target	Domestic private sector startup ecosystem	KPK early warning systems	Smallholder farmers climate resilience	Indus Basin: Flood & water resource management	SME solar	Indus Basin: Agriculture & Water systems	Low emissions transport	Glacier risk reduction	
Project Theme	Cross-Cutting	Adaptation	Adaptation	Adaptation	Mitigation	Adaptation	Mitigation	Adaptation	
Accredited Agency	NRSP	World Food Program	Acumen Fund Inc.	WWF	JS Bank	FAO	ADB	UNDP	
Executing Agency		WFP & GoKPK	ACAP	WWF Pakistan	JS Bank	FAO	Govt. of Sindh	MoCC	
Fund Manager	Sarmayacar	N/A	ACAP	N/A	N/A	N/A			
Sector	Private	Public	Private	Public	Private	Public	Public	Public	
GCF Funding	**25**	**8.8**	**28**	**66**	**10**	**35**	**49**	**37**	**258.8**
Equity	15		25						40
Grant	10	8.8	3	66	1	35	11.8	37	172.6
Guarantee					9				9
Concessional Loan							37.2		37.2
Co Financing	**25**	**1.07**	**62**	**11.8**	**44**	**12.7**	**534.5**	**0.5**	**691.57**
Equity	25		55						80
Grant		0.2	7	11.8		12.7	92.5	0.5	124.7
In-kind		0.87							0.87
Loan					44		442		486
Project Value	**50**	**9.8**	**90**	**77.8**	**54**	**47.7**	**583.5**	**37.5**	**950.3**

The climate financing support level to Pakistan by GCF in comparison to other countries shows a mixed picture (see table 09). In absolute terms, Pakistan has a sizable share of GCF projects and financing in comparison to developing countries. In terms of per capita financing, however, most peer-group countries including Kenya, Bangladesh and Nepal have significantly better GCF financing levels than Pakistan.

Table 09: GCF funding country comparison, as of November 2024

	Bangladesh	Thailand	Nepal	Mozambique	Pakistan	Phillipines	Kenya
Climate Vulnerability Rank	7	9	10	5	8	4	50-100
Population	173 m	72	31 m	34 m	240 m	117 m	55 m
No. of Projects	8	10	5	7	8	6	7
Total Financing	$ 441 m	$58 m	$ 112 m	$ 54 m	$304 m	$158 m	$ 322 m
Financing: Population index	2.5	0.8	3.6	1.6	1.3	1.35	5.9

ii. The Global Environment Fund (GEF)

The GEF was established before the 1992 Rio Earth Summit as a single entity to address global environmental challenges including biodiversity loss, climate change, and pollution. It is a financial mechanism for six multilateral conventions namely Convention on Biological Diversity, UN Convention to Combat Desertification, Minamata Convention on Mercury, UN Framework Convention on Climate Change, Stockholm Convention on Persistent Organic Pollutants, and Biodiversity Beyond National Jurisdiction Agreement.

It comprises of six funds dedicated to inter-related priorities for people and the planet: Global Environment Facility Trust Fund, Global Biodiversity Framework Fund, Nagoya Protocol Implementation Fund, Least Developed Countries Fund, Special Climate Change Fund and Capacity-building Initiative for Transparency Trust Fund.

The GEF currently has more than 1600 active projects and programs across 149 countries. It has provided more than US$25 billion in financing and has mobilized capital of more than US$145 billion since 1991. It has 18 partners as implementing agencies including ADB, UNDP, IUCN, WWF, etc. The World Bank is the GEF's Trustee and provides administrative services.

The GEF Trust Fund is replenished every four years through donor countries. Funding is primarily provided as grants, and the GEF's non-grant instrument works to unlock private sector investment in the environment through de-risking and blended finance. The current replenishment cycle (GEF-8) spanning 2022–2026 has funds of US$5.33 billion out of which 16% is allocated to climate change mitigation activities.

Table 10: Profile of active exclusive GEF projects in Pakistan

	Project	Focal Area	Type	Agency	GEF Grant	Cofinancing
1	Development of National Action Plan for Artisanal and Small-Scale Gold Mining in the Islamic Republic of Pakistan	Chemicals and waste	Enabling Activity	UNEP	500000	
2	Accelerating low-carbon circular economy through cleantech innovation towards sustainable development in Pakistan	Climate Change	Medium-sized	UNIDO	1,776,484	11,800,000
3	Combating Climate Change through the Promotion and Application of Sustainable Biomass Energy Technologies in Pakistan (PASBET)	Climate Change	Full-size project	UNDP	3,439,041	21,150,446
4	Combating land degradation through integrated and sustainable range and livestock management to promote resilient livelihoods in Northern Punjab	Land Degradation	Full-size project	FAO	2,183,105	13,102,100
5	Transforming the Leather Processing Industries towards Low Emissions and Climate Resilient Development Paths in Pakistan	Climate Change	Medium-sized	UNIDO	2,000,000	12,198,000
6	Reversing Deforestation and Degradation in High Conservation Value Chilgoza Pine Forests in Pakistan	Biodivesity, Climate Change	Full-size project	FAO	3,978,440	24,000,000
7	Snow Leopard and Ecosystem Protection Program	Biodiversity, Land Degradation	Full-size project	UNDP	4,644,521	15,130,000
8	Delivering the Transition to Energy Efficient Lighting in Residential, Commercial, Industrial, and Outdoor Sectors	Climate Change	Medium-sized	UNEP	1,575,500	5,786,700
9	Mainstreaming Climate Change Adaptation through Water Resource Management in Leather Industrial Zone Development	Climate Change	Full-sized project	UNIDO	3,310,000	14,700,000
10	Sustainable Forest Management to Secure Multiple Benefits in High Conservation Value Forests	Biodiversity, Climate Change	Full-sized project	UNDP	8,338,000	49,420,000
11	Support for the Revision of the NBSAPs and Development of Fifth National Report to the CBD	Biodiversity	Enabling Activity	UNEP	220,000	245,000
12	Generating Global Environmental Benefits from Improved Decision Making Systems and Local Planning in Pakistan		Medium-sized	UNDP	995,500	940,050
13	Sustainable Energy Initiative for Industries	Climate Change	Full-size project	UNIDO	3,550,000	31,200,000

GEF's active projects profile in Pakistan highlights the following:

GEF has currently 12–13 projects active in Pakistan with a grant value of approximately US$37 million and a co-financing value of approximately US$200 million (see table 10). From the projects in pipeline, 8 projects are focused on climate change exclusively or with another co-objective. In terms of size, 7 projects are full-sized with the largest project providing grant funding of US$8.3 million. Projects are mainly being implemented by UN agencies.

Co-financing is being mainly sought from the government, both national and provincial with a smaller share from the private financial and corporate sector and other multilateral agencies.

A GEF financing (direct country projects) comparison of peer-group countries shows that Pakistan stands at a significant disadvantage from various perspectives. Considering the climate vulnerability index, countries like Kenya have been able to obtain a higher absolute financing than Pakistan. More significantly, Pakistan stands at a disadvantage versus other countries in terms of per capita financing as it has the lowest financing ratio of US$0.16 per capita in comparison to all its peer group (in most countries (see table 11) financing per capita stands at more than US$0.7). It is also to be noted that countries like Bangladesh and Nepal have been able to access national/regional funding under the LDCF (Least Developed Countries Fund) whereas Pakistan is not part of these funds.

Table 11: GEF funding comparison

	Pakistan	Bangladesh	Thailand	Nepal	Phillipines	Kenya
Climate Vulnerability Index	8	7	9	10	4	55-100
Population (Mn.)	240	173	72	31	117	55
Funds Accessed	GET	GET	GET	GET	GET	GET
Project Type	National	National	National	National	National	National
Number of Active Projects	12	13	18	8	24	18
Total Financing ($Mn.)	$37.40	$34.60	$52.30	$22.70	$102	$60.90
Per Capita Financing	$0.16	$0.20	$0.73	$0.73	$0.87	$1.11

5b. Bilateral funding

i. Foreign, Commonwealth and Development Office (FCDO), Government of the United Kingdom

The Foreign, Commonwealth and Development Office (FCDO) is the United Kingdom's primary channel for development responsible for ~62% of the British Government's development budget. The Strategy for International Development (IDS) sets the direction for all the Government of the United Kingdom's development work, and places development at the heart of the United Kingdom's foreign policy. It sets out a new approach to development, anchored in patient, long-term partnerships tailored to the needs of the countries we work with, built on mutual accountability and transparency. Its 4 priorities are to deliver honest, reliable investment, provide women and girls with the freedom they need to succeed, step up our life-saving humanitarian work, and take forward work on climate change, nature, and global health.

Pakistan is an important regional and strategic partner to the United Kingdom. The United Kingdom provides Pakistan's third largest source of foreign direct Investment. Its partnership with Pakistan is in transition from a traditional aid relationship to a mutually beneficial partnership, reflecting Pakistan's status as a lower middle-income country, and the country's growing status as strategic trade and investment partner. This partnership is built upon shared objectives and mutual interests which will support accelerated progress in key areas of Pakistan's development. This transition shifts its investment from large scale service delivery programmes to systems strengthening work, policy engagement, catalytic technical assistance, and seed capital to crowd in investment. The United Kingdom-Pakistan development partnership is focused on addressing critical structural issues: population dynamics, climate vulnerability, gender equality, and macroeconomic stability.

The United Kingdom in Pakistan has established constructive partnerships with multilateral and bilateral partners such as the World Bank and International Finance Corporation (IFC), United States Agency for International Development (USAID), United Nations (UN) organizations, Asian Development Bank, the private sector, and local civil society organizations. Its broad engagement brings collective power to multi-stakeholder dialogues on key policy issues and shapes strategic collaboration with the aim to have a greater impact and limit aid fragmentation.

One of the goals of the partnership is to support Pakistan to adopt a more resilient and cleaner growth path by preparing for, responding to, and reducing the impact of, climate change and biodiversity loss. Its portfolio focuses on adaptation by communities, government, and public services and on strengthening disaster preparedness and disaster management. The United Kingdom's considerable influence in the multilateral system is being leveraged to lobby for reforms through the Bridgetown Agenda that will enable Pakistan quicker access to climate finance, for adaptation and transition to net zero. The Government of the United Kingdom is the largest contributor to the Green Climate Fund (GCF) – over US$3 billion since its inception. The Government of the United Kingdom has made significant contributions to the Climate Investment Fund and leads the Clean Energy Innovation Facility which provides grants to researchers to accelerate the development of innovative clean energy technologies in developing countries.

Key programmes to partner Pakistan towards a cleaner and more resilient growth path will be Building Resilience and Addressing Vulnerability (BRAVE) and the Water Resource and Accountability in Pakistan (WRAP) programmes (see table 12) as part of the current portfolio of climate-related projects of more than GBP 300 million. The next generation of private sector development programmes in Pakistan will focus on mobilizing climate investment to support low-carbon, resilient growth, and catalysing economic transformation in high potential manufacturing value chains.

Table 12: FCDO active national climate finance projects in Pakistan

Project	Period	Value	Type	Objectives
Subnational governance programme (SNG-II)	2018 - 2026	GBP 37.8 million	Enabling	The programme will improve government's management of its public finances and thereby the provision of basic services for the poorest, and the most vulnerable, including women, girls and people with disabilities.
Water resource accountability in Pakistan (WRAP)	2021 - 2028	GBP 30 million	Adaptation, Enabling	To improve water governance and management issues in Pakistan to be able to adapt to changing climate while ensuring environmental sustainability, with a focus on collaboration and engagement with provinces, research and media engagement.
Building Resilience and Addressing Vulnerability to Emergencies (BRAVE)	2021-2028	GBP 97 million	Adaptation	BRAVE aims to improve community resilience to climate change and the capacity of key government institutions responsible for delivering climate resilience, including systems for adaptive and shock responsive social protection
Sustainable Energy and Economic Development program (SEED)	2018 - 2026	GBP 27 million	Mitigation, Enabling	The programme aims to support Pakistan's poorest province, Khyber Pakhtunkhwa to plan and finance the infrastructure and investment it needs for growth, jobs and prosperity. • To address Pakistan's energy crisis by providing innovative financial solutions to industry for the adoption of sustainable energy practices.
Climate Investment Fund for Pakistan (CIFPAK)	2024-2031	GBP 108 million	Adaptation, Enabling	CIFPAK aims to crowd in private climate finance using a blended finance approach (public/private, concessional/non-concessional), supported by targeted technical assistance. The programme will particularly support implementation of Pakistan's National Adaptation Plan as well as Pakistan's recovery and reconstruction needs in the wake of the 2022 floods. It will also aim to deepen Pakistan's capital markets to unlock new sources of private capital through the development of innovative green financing instruments.

5c. Multilateral development banks: Belly of the climate financing needs for Pakistan

Climate finance from the multilateral banks reached US$50.7 billion for low-and middle-income countries in 2021, while adaptation finance reached a total of US$19.2 billion, of which 92% went to low-and middle-income countries. To catalyse the major scaling-up of investment required to respond to the magnitude and urgency of climate and development challenges in emerging markets and developing countries, the multilateral development banks need to move proactively.

MDBs are expected to remain the main source of international climate finance for Pakistan as they have provided about US$6.4 billion for climate-related investments over the 2015–2020 period. In 2021, MDBs held an approximate 50% share of Pakistan's total climate financing. A large share of World Bank lending to Pakistan (44% in FY2021) is now linked to climate co-benefits, and 50% of the portfolio of the IFC is climate-tagged. Significantly more MDB financing will thus be required to accelerate green and climate resilient financing in line with Pakistan's climate financing needs.

The expanding range of MDBs' blended finance instruments has not led to a significant increase overall in the private finance mobilization ratio, as the development of these instruments has often been time-consuming and the replication potential limited. Furthermore, MDBs remain predominantly oriented towards the public sector, with a high share of sovereign and sovereign-guaranteed debt in their portfolio. Most MDBs have a high public share in their outstanding portfolio. For the World Bank Group, the public sector share of the combined IBRD, IDA and IFC portfolios was 89% in 2020. For Pakistan, this means using MDB financing strategically in relevant long-term projects where other low-cost financing may not be available, to manage its debt burden.

Nevertheless, given their scale and share of climate finance, MDB's must initiate collaboration with Pakistan's private sector in assessing, managing reducing and sharing risk,

which is critical both to bringing down the cost of capital and to mobilizing private investment and finance on the necessary scale. Furthermore, given their experience and proven tools, MDBs should expand their market development impact, including through local capital market development and policy work to open new market opportunities for private investment in Pakistan.

i. Asian Development Bank

The Asian Development bank is significantly active in Pakistan, a founding member of the bank, helping strengthen climate resilience and influencing a wide range of issues including empowerment of women, food security and social services. It also works actively on improving institutional capacities and economic infrastructure. ADB's country partnership strategy, 2021–2025, for Pakistan focuses on three priorities: improving economic management, building resilience, and boosting competitiveness and private sector development. ADB's total commitment as of December 31, 2023, to Pakistan through 755 public sector loans, grants, and technical assistance totals US$41.4 billion.

In 2023 ADB's loan and grant commitments to Pakistan amounted to US$1.6 billion. This includes US$400 million in programme lending, US$1.2 billion from project lending, and US$13.5 million from grants. Related to the climate agenda, of note in 2024, the Asian Development Bank (ADB) has approved a US$500 million policy-based loan to support climate change and disaster risk reduction and resilience in Pakistan (see table 13). The Climate and Disaster Resilience Enhancement Programme (CDREP) will strengthen Pakistan's institutional capacity for planning, preparedness, and response; increase inclusive investment in disaster risk reduction and climate resilience; and support the scale up of disaster risk financing using a risk-layered approach.

Table 13: Short list of environment-related ADB projects approved over the last year for Pakistan

Project	Status	Value	Type
Climate and Disaster Resilience Enhancement Program	Approved Oct 24	US$ 500 Million	Loan
KPK Rural Roads Development Project	Approved Sept 24	US$ 320 Million	Concessional & Ordinary Loan
Sindh emergency housing reconstruction project	Approved July 24	US$ 900 Million	Concessionary Loan & TA
Promoting Sustainable public private partnerships program	Approved June 24	US$ 250 Million	Ordinary Loan
Preparing the Naulong integrated Water Resources Development Project	Approved Dec 23	US$ 802,000	TA
KPK Food Security Support Project	Approved Dec 23	US$ 83 Million	Grant & Concessional Loan
Punjab - Developing Resilient Environments and Advancing Municipal Services	Approved Nov 23	US$ 181 Million	Concessional Loan & TA
Preparing investment program for clean and sustainable energy	Approved Nov 23	US$ 800 million	TA

Source: Asian Development Bank

As per ADB's stated future direction, its 2026–2030 country partnership strategy for Pakistan is expected to focus on mitigating the impacts of climate change, investing in the social sector, and developing climate-smart economic infrastructure. The bank also announced in

September 2024 that it will provide US$2 billion in annual assistance to Pakistan over the next three years to support infrastructure development and climate-resilient projects.

5d. An assessment of international climate finance

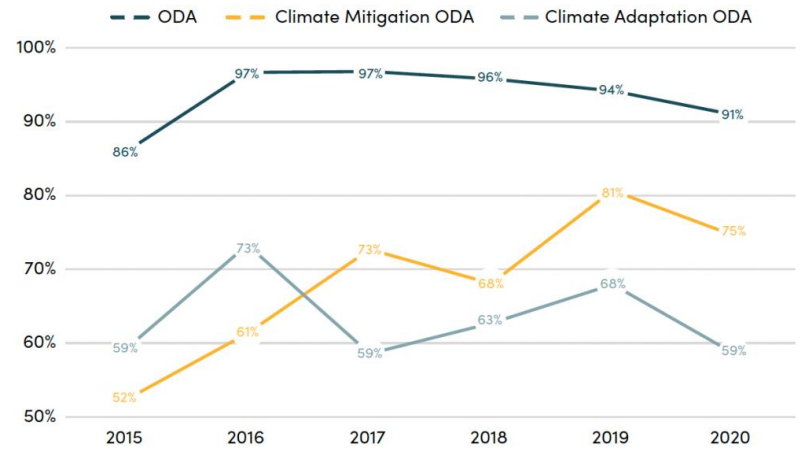
Only a small share of international climate finance sources tends to work with or through country institutions while most prefer to work through multi-lateral agencies. This approach reduces ownership of recipient countries over climate financing.

Furthermore, a 'project' based approach, commonly adopted by international climate finance sources, reduces financing effectiveness while 'budget support' and 'direct access' are two modalities which increase recipient country ownership. 'Direct access' modality is mainly practiced by 'multilateral climate funds' which have a small share of international finance. Furthermore, while climate funds have accredited local institutions, they have placed high technical demands on them as additional project approval procedures, further slowing down their access to finance.

Financing providers claim low recipient 'country capacities' and 'lack of budgetary processes' to receive budget support, as limiting factors. Providers aim to maximize certainty of project results and low capacities can be a deterrent to achieving that objective. In the long term, however, providing finance outside of national institutions is unlikely to strengthen local capacities and might make providers' interventions less sustainable in the long run. Providers have increased 'readiness' funding in response to the capacity issue. 'Climate tagging' in budget expenditures is one method to reflect recipient country accountability.

What further affects ownership of climate action at local level is low level of disbursement ratios vs. commitments. This limits local government's ability to plan considering uncertainty around the volumes of finance which will ultimately materialize.

Table 14: Disbursement ratios in 2015–2020, for all ODA and ODA with climate objectives

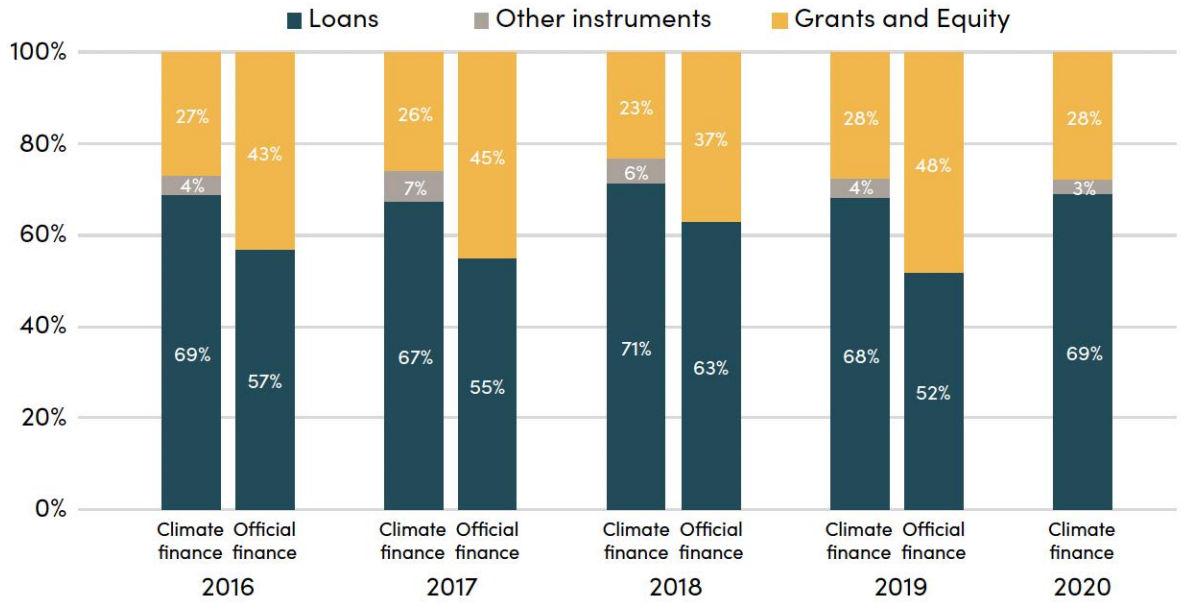


Source: OECD CRS, based on Rio Markers for commitments and disbursements, ODA for all official donors, including DACs, non-DACs and multilateral agencies excluding MDBs.

For perspective, as per OECD, disbursement ratios, particularly for adaptation finance, have trailed behind average ODA disbursement ratios in recent past (see table 14), indicating that approved climate projects are either being implemented with significant delays, or are not being implemented at all.

Most critically, even as climate vulnerable countries, including Pakistan, have repeatedly called for more grant-based climate finance, international public finance providers continue to offer climate funding primarily in the form of loans. As per OECD data, debt instruments, including both concessional and non-concessional loans, have accounted for most of the bilateral and multilateral public climate finance to developing countries, and have constituted at least two-thirds of the total in each year between 2016 and 2020 (see table 15).

Table 15: Instruments used for public climate finance and all official finance to developing countries



Source: Data on climate finance was adapted from the OECD Aggregate Report,[35] and data on official finance was adapted from the World Bank.[36]

Box 03: Pakistan's risk of sovereign stress

As per IMF's country report published in September 2024, Pakistan's overall risk of sovereign stress is high, reflecting a high level of vulnerability from elevated debt and gross financing needs (GFN) and low reserve buffers. The medium-term risks, including uneven programme implementation, political risks, and access to adequate multilateral and bilateral financing in view of the high GFN, are assessed as high.

The long-term risks are assessed as moderate with potential growth being hampered due to insufficient progress with policies and structural reforms. Pakistan is also highly exposed to the adverse consequences of climate change, and the necessary adaptation costs would slow the reduction of debt and financing requirements.

Furthermore, climate finance appears to use a higher proportion of debt instruments than average across other official financial flows to developing countries. While such debt-based climate-finance may contribute to low carbon, resilient and sustainable development for developing countries, aim towards revenue-generating projects, or even pave the way to scale up private investment in the future, these potential benefits must be weighed against the economic risks of exacerbating currently dangerously high external debt burdens of middle-low-income countries like Pakistan.

Finally, there is a significant gap in the number of evaluations done for climate interventions as opposed to other development priorities. This is partly a result of the relative novelty of climate finance as a type of development finance. Even when a limited number of studies exist which evaluate the activities of individual climate finance providers, there exist even fewer systematic reviews which can synthesize findings across a variety of different financial sources and contexts to provide more general insights on the pre-conditions for climate project successes. If providers have clear evidence that climate finance is leading to results, they will be more confident in allocating funding, reducing burdens, and improving access for recipients. With such a paucity of high-quality evaluation research, there is not only a case for substantially stepping up monitoring and evaluation efforts, but for doing so in a coordinated and consistent way to enable learning across providers and different contexts, and feed into the global stock take process.

5e. Driving the domestic private sector as a source of climate finance

Domestic private sector investments are a key source for capital-intensive clean energy assets – such as wind, solar PV, batteries, and electric vehicles – and other low-carbon solutions for energy systems, transport, buildings, and agriculture. These 'new climate economy' assets have relatively high upfront investment costs and lower operating and fuel expenditure compared with traditional assets over time. Given the right investment conditions and policies, the private sectors have proven to play a pivotal role towards mitigation financing.

Private finance global landscape

Most global private finance is concentrated in the developed world and mainly targets mitigation efforts. More than 91% of private climate finance was channelled domestically.

Globally, climate finance from private sector comprises of financial institutions, corporations, and households as sources. Commercial finance institutions (banks) provided 38% of private climate finance in 2021/2022, mainly in the form of debt.

Corporations provided 31% of private flows in 2021/2022 with renewable energy and low-carbon transport representing 91% of total corporate flows. Corporations provided climate finance mostly in the form of equity.

Household spending on climate mitigation reached US$184 billion in 2021/2022 which is an increase of US$130 billion from 2019/2020. This is driven by rising global EV purchases, reaching US$142 billion in 2021/2022. This was supported by strong domestic policies sustained over a decade, including support for the uptake of low-carbon technologies, tightening technical specifications, and the designation of low- and zero-emissions zones to reduce air pollution and reduce congestion particularly in China, Europe, the US, and Japan. Residential solar PV, solar water heaters, and energy efficiency related home improvements account for the remaining climate-related household spending.

In Pakistan, climate finance requirements present various underlying business opportunities and investment potential for private investors to participate in. According to the International Finance Corporation (IFC), green development opportunity worth US$197.1 billion is available in the country to achieve its climate goals by 2030. IFC has identified potential climate investment opportunities in different sectors, the top sectors being green buildings (US$90 billion), electric vehicles (US$41.7 billion) and renewable energy (US$41.5 billion).

In Pakistan in 2021, an estimated 5% of climate finance was driven by the private sector which is extremely low compared to the regional and global averages (49% in 2021/22). The private sector actors face a cross-section of risks in Pakistan that hinders climate related investment. Uncertainty related to policy, subsidies and pricing mechanisms can particularly affect energy-related investment. As climate related infrastructure projects often require hard currency investments but local currency revenues, the exchange risks can be particularly high. There is also a lack of education, data and use cases towards private investors on available high quality scalable investable technologies and projects. Furthermore, private investors need to be able to access capital along with suitable risk mitigation instruments for climate-related investments.

Pakistan's commercial financial sector

The commercial financial institutions in Pakistan have moved at a snail's pace in mobilizing green finance despite supportive schemes being made available by the SBP. As per a survey published in February 2023, number of financial institutions who extended green loans for distributed solar and for electric vehicles were only 41% and 4% respectively. According to the same research, financial institutions cited the following barriers to green financing: concerns related to the likelihood of default, low market demand for renewable products, low financial returns from these products, and process and transaction complexity.

Accelerating green financing would require strengthening existing regulations through improved taxonomy, obligatory financing, and effective implementation of the rolled-out regulations. Ensuring domestic banks (including national development banks) can access project preparation funding and are actively engaging with private investors in the early stages of project development will be key. At the same time, measures to bolster financial sector confidence are required such as establishing effective risk-sharing mechanisms and creating formal secondary markets for renewable energy products.

Box 04. Pakistan: Private Sector Loans

The total outstanding loans to private sector amounted to PKR 8.4 trillion as of September 2024. While there has been a recent increase in the volume of credit extended to the private sector in Pakistan and a higher allocation of the local currency (rupee) for private sector activities, its proportion in relation to the country's GDP over the long term has seen a decline, falling from 29% in 2008 to 20% in 2024. Additionally, the credit that is allocated to the private sector tends to be highly concentrated and predominantly short-term in nature. The corporate sector which makes up about 70% of banks' loan portfolios, has experienced a growing share over time. This trend has resulted in the marginalization (less than 5%) of key segments of the economy, such as Small and Medium Enterprises (SMEs) and the agriculture sector, from receiving adequate financing, despite their significant contributions to GDP and employment.

Credit / Loans Classification	Sept 23	Sept 24
Credit to Government Sector	25.12	30.71
Credit to Non-Government Sector	10.83	11.4
Loans to Private Sector	**8.02**	**8.41**
Agriculture, forestry and fishing	0.37	0.40
Manufacturing	4.42	4.71
Electricity, gas, steam & AC	0.54	0.49
Construction	0.19	0.21
Wholesale & retail trade	0.49	0.52
Information and Communication	0.35	0.43
Others	1.65	1.67

Figs in PKR Trillion

Source: State Bank of Pakistan

The data highlights that most of the investments have been made in the manufacturing sector (56%), followed by wholesale and retail trade, electricity, gas, steam, and air conditioning supply, agriculture, forestry and fishery, and information and communication (5–6% each).

Case study: Solarization and private sector investment mobilization

According to SBP, its' refinancing schemes for renewable energy disbursed PKR 94.7 billion by end of June 2024, financing more than 4,500 renewable energy projects with a cumulative energy generation capacity of almost 2,061 MW.

According to research, the macro-economic conditions prevailing and influencing decision-making of the private sector has been the primary driving force behind the uptake on the renewable energy adoption by both residential and commercial segments of the private sector.

At the beginning phase of the SBP refinancing scheme, private sector uptake was low due to high investment costs of solarization, less awareness about the technology and palatable energy costs in the country. The commercial financial sector was not able to convert the scheme into strong loan volumes. When electricity tariffs started increasing, supplemented by lower solarization costs, the advantageous comparative cost of solarization started pulling up private sector uptake. Furthermore, even after the SBP scheme has been pulled out in mid of 2024, solarization adoption by the residential and commercial private sectors continues to grow, through loans and equity, due to declining interest rates.

Steering the corporate sector to adopt ESG practices

The formal corporate sector will have to play its due role to increase the share of private finance towards climate action. While on one hand the corporate sector has been motivated by the business case of moving towards energy efficiency related projects, on the other hand the progress is not structured enough to neither lead Pakistan towards its National Determined Contribution commitment nor towards enabling a strong climate and sustainability driven capital market.

Both the State Bank of Pakistan and the Securities Exchange Commission of Pakistan have introduced voluntary guidelines for the business sector on sustainability risk management and sustainability disclosures. In absence of mandatory disclosure requirements, comprehensive standardized climate action data from the corporate sector is not available, neither in disaggregated form nor in the form of a centralized repository.

Box 05: Overview of ESG markets' development in Asia

In recent years, governments, international organizations, and the private sector in Asia have acknowledged that environmental, social, and corporate governance considerations could affect market performance in the long-term. Hence, market participants are increasingly interested in incorporating ESG factors in financial markets, thanks to its capacity to deliver non-financial information on sustainability concerns.

More Asian firms are reporting their carbon emissions, and the region is ahead of most in this regard. Climate disclosure requirements exist in laws or regulations for private firms in several Asian economies, for example in Australia, Korea, Hong Kong, Japan, Malaysia, Philippines and Thailand, and the number of firms headquartered in Asia-Pacific that self-reported their carbon emissions rose from about 200 in 2014 to almost 1,000 in 2022.
There are global efforts in progress to build on recent progress toward more comprehensive and transparent climate disclosures. Firstly, the coverage of disclosure requirements varies significantly across regions and is often limited to a few sectors. In future, it is also crucial that climate-related disclosures align with the globally harmonized sustainability disclosure standards set by the International Sustainability Standards Board (ISSB), effective for annual reporting since July 2024.

Furthermore, there is an increasing trend of coverage by data providers of ESG ratings of public companies in Asia. This reflects an increasing interest by market participants to incorporate and examine sustainability considerations in the Asian financial sector. While Asia is scaling up the coverage of ESG ratings, as of 2021 already, they covered a large share of the region's companies in terms of market capitalization. ESG ratings covered companies that accounted for 80% of APEC's market capitalization, with high coverage contributed to mainly by Japan (83%), Korea (69%), Singapore (84%) and Malaysia (67%).

The climate action advocacy agenda has evolved effectively in Pakistan over the past four years, first as an ESG task force, formed by the Pakistan Stock Exchange and the Pakistan Institute of Corporate Governance, and later by the Securities Exchange Commission of Pakistan, in the form of an ESG roadmap for capital market. At the same time, corporate capacity building efforts have accelerated over the past two years by firms providing professional services.

International laws coming into effect, for example the EU's corporate sustainability due diligence directive (CS3D), are expected to require domestic companies to report on environmental compliance of their international supply countries. The EU law is going to take effect in 2026 and will have indirect implications for Pakistan's export sectors. The EU is further expected to enforce a carbon tax mechanism, the Carbon Border Adjustment Mechanism (CBAM) from 2026 where importers will pay an individual carbon price for imported goods. The initial phase of CBAM will cover six high-impact sectors that include cement, iron and steel, aluminum, fertilizers, electricity, and hydrogen, but is expected to cover more export critical sectors for Pakistan like textiles in the future. As Pakistan aims its economic policy at developing its exports contribution to bolster its overall economic position, and as its compliance with the GSP+ obligations remain important for its competitive position in the global export market, green private investments are going to be pivotal towards this ambition.

Internationally, private sector aligned initiatives have played a major role in seeking collaboration, action, and collection of standardized climate action data. The Science-based targets initiative (SBTI), Race to Zero, and the Glasgow Financial Alliance for Net Zero are relevant examples of how the corporate sector has been galvanized to come together for climate-oriented goals. Taking lead from international initiatives, Pakistan's business associations like the Overseas Chamber of Industries and Investment, the Pakistan Business Council, and the Pakistan Banking Association need to work with its members to set goals and report data on a centralized platform. In December 2024, the SECP has launched a dedicated ESG dashboard named ESG Sustain to serve as a focused communication platform and capture the progress on adoption of ESG initiatives on real time basis, but if it remains voluntary and non-standardized in nature its effectiveness would remain limited.

6. Climate financing instruments

Multilateral development banks and international governments have to date been the primary source of climate finance in Pakistan, providing a combination of ordinary and concessional loans, grants, research funding and technical assistance. International private sector investors and project developers have also contributed to Pakistan's climate finance, of which the WAPDA bond is a notable mention. The multilateral funds have contributed mainly in the shape of grants, and to some extent through concessional loans, equity and guarantees. Domestically, climate financing has come from the public sector through its expenditure budgets, equity, and debt, and from the private sector, through both equity and debt. Here below (see table 16) is an overview of some of the climate financing instruments in use in Pakistan.

Table 16: Overview of the main climate financing instruments used in Pakistan

Type of Instrument	Mostly sourced from	Mostly aimed at	How do they work
Grants	Multilateral and bilateral institutions, national DFIs and governments	Non-revenue generating activities in recipient countries, such as capacity building, knowledge management, etc. Grants are a key financing mechanism for adaptation activities	Funds are not expected to be repaid
Concessional Loans	Multilateral, bilateral and national DFIs	Targets high-impact projects responding to globally significant development challenges from climate change mitigation and resilience	Loans have an interest rate lower than the market rate
Project Equity Finance	Governments, state-owned enterprises, corporations	Projects which require a demonstration of commitment to access other forms of financing, for e.g. early-stage financing	Equity with ownership without any guarantee of repayment
Thematic Bonds	Issued by governments, financial institutions and corporates who borrow from investors	Most of them are issued based on green 'use-of-proceeds' or are asset-linked bonds, i.e. to fund projects which have positive environmental outcomes	Fixed-income debt instrument
Guarantees	Multilateral banks, DFIs, export credit agencies, specialized institutions	Mainly to catalyse private capital by covering mainly commercial risks	Predominantly debt-oriented but also towards equity
Technical Assistance	Multilateral banks	Building institutional capacity to deliver long-term impact	Deployment of consultants, without exchange of funds

6a. Developing a carbon market: Serving climate finance and a multi-pronged agenda

Actively developing a carbon market has a significant potential to bridge the climate financing needs in Pakistan. Additionally, it can serve a multi-pronged agenda as follows:

- With increasing energy prices for both industries and residential consumers, the cost of doing business is becoming challenging. Further with the increasing foreign account deficit, Pakistan needs to scope mechanisms that can bring foreign investments and currency into the country, and carbon markets could be a low-hanging fruit.
- Furthermore, by establishing a carbon market, Pakistan can incentivize and promote private investments in clean technologies, renewable energy projects, and energy efficiency initiatives leading to developing an industry of environmental sustainability, providing stimulus to economic growth, job creation, and technology transfer. A carbon market will also serve as a parallel mechanism to expedite corporate compliances on planned carbon emissions related regulations.

Box 06. Carbon market mechanisms

There are various pricing mechanisms available and being used by countries and organizations globally to purposefully operate and engage in a carbon market. Broadly, carbon pricing mechanisms are categorized into compliance instruments like emission trading systems (ETS) or carbon taxes, where covered entities are obligated to pay for the emissions, and the voluntary route of carbon credits, where participants earn credits in recognition of quantified and verified emissions reductions or removals.

As of April 1, 2024, compliance instruments covered nearly 13 giga-tonnes of CO_2 equivalent, about 24% of global GHG emissions and surpassed a combined revenue of US$100 billion in 2023.

The global voluntary markets, on the other hand represent a much smaller proportion of carbon trading, reached a value of roughly US$2 billion in 2022. Under the voluntary category, international mechanisms, established under international treaties and administered by international organizations, and independent mechanisms, standards and crediting mechanisms administered by independent, non-governmental entities are more prevalent globally while governmental administered mechanisms hold less than 10% share of the voluntary market.

Under Pakistan's NDCs as well as announcements made under COP27, Pakistan has also committed that it is considering employing financing instruments based on ambitions provided in Article 6 of the Paris Agreement that focuses on carbon markets. Article 6.2 allows countries to trade emission reductions and removals with one another through bilateral or multilateral agreements and Article 6.4 will create a global carbon market overseen by a United Nations entity. Engaging in carbon markets aligns with these commitments and allows Pakistan to actively participate in the global efforts to mitigate climate change. Its importance has also been identified in Pakistan's Updated National Climate Change Policy 2021.

Critical considerations for establishing a successful carbon market in Pakistan

Pakistan is in an initial phase with limited work done around strong policy and regulatory frameworks for the implementation of carbon markets. During this stage, the policy makers need to ensure that this process is a piece of a broader ecosystem requiring mutual and supportive efforts that can enable an equitable transition. For example, the Government of Pakistan needs to develop the national repository and provide an enabling environment for the private sector by laying out procedures and guidelines for the registration of projects in that repository.

Bringing transparency in design and its set up process to improve market confidence would be essential. Further, putting a mechanism for improving the integrity would require developing clean and common standards as well as a scrutiny process from a wide range of stakeholders. Furthermore, the projects that were already in the process of carbon trading (such as Delta) with the investments of foreign investors should be assured their trading rights.

Setting the data right will be critical for a successful carbon market implementation. The government must determine and put in place the NDC targets that can be achieved using Article 6.2 or VCMs as a financing tool. Developing baseline emission factors, especially for sectors where we can foresee a better transitional opportunity for carbon markets, should also be prioritized.

Capacity building of the stakeholders is currently identified to be one of the biggest challenges in an effective implementation of carbon markets in Pakistan. This capacity deficit is present not only in the public, but also in the private sector, CSOs, and relevant consultants working in Pakistan. A pre-emptive launch of awareness, business case buy-in and capacity building should be considered through research and advocacy institutes and public-private partnerships.

Box 07. Pakistan launches its carbon policy

Pakistan is considering market-based climate policy instruments, including an ETS. The Ministry of Climate Change and Environmental Coordination (MoCC&EC) has received support from the UNFCCC and the World Bank in developing a MRV roadmap, establishing a domestic ETS framework, and in building a communication strategy for carbon pricing. The ongoing work on establishing a registry and MRV system has progressed to the implementation phase. Pakistan launched the National Committee on Establishment of Carbon Markets (NCEC) in December 2019, which coordinated ministerial activities on carbon pricing. Among other responsibilities, the one-year committee was tasked with assessing the role and scope of carbon markets in delivering Pakistan's NDC and identifying opportunities for and challenges to improving emissions data. The NCEC reviewed existing carbon market designs, deliberated with national stakeholders, and coordinated information-sharing and capacity-building activities. The MoCC&EC is currently advancing the work in these areas under the World Bank's PMI programme where the initial mapping exercise has led to the implementation of activities contributing to four broad outcomes. The country will initiate work on 1) domestic carbon pricing policy; 2) international carbon market to operationalize Article 6; 3) an MRV framework; and 4) knowledge management/capacity building under the current support in next five years. Besides a domestic ETS, Pakistan aims to launch credit-based trading mechanisms linked to international carbon markets, which would enable it to supply offset credits to partner countries. Policy guidelines are being drafted to provide a roadmap for carbon trading in international markets. This includes the guidelines for developing emission reduction projects and protocols for corresponding adjustment.

Pakistan will face the ultimate challenge of creating the right mix of carbon pricing tools to encourage innovation and growth, deliver towards its climate finance goals and at the same time address the impacts of climate change on livelihoods. While a carbon tax mechanism would be simple, scalable and provide a steady revenue stream it might be inflationary and regressive for low-income households. A voluntary crediting mechanism is positioned to be innovation driven and provides access to international funds, however, it faces the challenge of incentivizing supply side projects, ensuring demand mechanisms and establishing strong institutional frameworks. Pakistan Government should select the design and combination of carbon pricing policies based on national circumstances and political realities. It is recommended to use a hybrid tool approach that is mutually complimentary and meets the objectives of the initiative.

6b. Guarantees: Offering high potential in the climate financing mix for Pakistan

Pakistan's guarantee market is at a nascent stage, primarily driven by international operators, with only a handful of local institutions providing local currency guarantee mechanisms in the market. The focus of local institutions is primarily on development-oriented projects, offering cross-cutting outcomes including those related to environment and climate.

An OECD evaluation found that guarantees leveraged 26% of all mobilized private finance between 2018–2020. Studies suggest that increased and purposeful credit guarantee facilities, with standardized contracts and agreed criteria, have the potential to mobilize 6–25 times more financing than loans.

Box 08. An overview of the global guarantee market

Guarantee providers can be categorized into the following institution types: Multilateral Development Banks (MDBs), Specialized Institutions (entities that operate similarly to private sector organizations but are funded by governments and development institutions, generally focusing on guaranteeing specific types of risks in specific situations), Development Finance Institutions (DFIs) other than MDBs, Export Credit Agencies (ECAs), and Private Sector Entities.

While over half the guarantees mapped are targeted for use in EMDEs, a significant share of guarantees is directed to middle-and high-income countries. Guarantees and insurance products can be designed to protect debt providers and equity investors, however they are generally more debt focused than equity focused.

Although different guarantors and insurers often offer somewhat different terms on their products, the types of risks covered usually fall into three major categories: commercial risks, political risks, and currency risks. Most guarantees are climate-agnostic, with a small proportion being climate-exclusive. Generally, commercial risk cover is more widely available than political and currency risk cover. Guarantee products are found to cover investments in both private sector and public sector projects.

Their importance can be even greater in an emerging market like Pakistan for the following reasons:

- Guarantees can facilitate mobilization of private climate finance in Pakistan particularly in adaptation and resilience domains where private finance is limited and is critically required.

- Local banks often do not have deep expertise in project finance, and instead focus on short-term working capital or corporate finance. Guarantees can help support longer-term financing.
- The cost of finance in recent years has ranged from 15% to as high as 35% for longer-term funding. The use of guarantees from MDBs and DFIs can adjust the risk profile for local financial institutions on a blended interest rate margin basis and reduce the local borrowing costs.
- Long-term currency management is either limited or absent. Guarantees available in local currency mitigate this risk given the Pakistan currency has depreciated over the long term against hard currencies.
- To the extent investment and funding can be provided by national financial institutions with guarantees from DFIs abroad, there is no requirement for political risk insurance cover and the associated costs.
- Increasing access to capital for medium-sized enterprises in Pakistan as commercial financial institutions primarily cater largely to low-risk public sector or large corporates with established credit ratings. As institutions behind these instruments ensure integration of corporate governance mechanisms in the project design, it further helps in sustainability and expansion of bankable projects.
- Guarantee providing institutions enable project success by packaging-in additional support in the shape of grants and/or technical assistance. These tools, therefore, become more wholesome in nature versus other sources of finance like private debt.

7. Climate financing for Pakistan: Key barriers and challenges

High return on investment risks for the domestic financial sector

Domestic private financial institutions interest in climate financing opportunities may be restricted due to the high return on investment risks in Pakistan. The recently prevalent high return on investment (ROI) hurdle rate would have priced out many bankable opportunities. For local investors, the most significant challenges are credit risk and long-term tenure of climate projects. Concerns related to the likelihood of default or losses, augmented by the low perceived potential for profits or benefits from financing these technologies, has drawn lenders away from financing green products in recent past. Given the relatively high recent return on money market debt instruments, local banks also perceive climate projects as riskier given all the preparatory and logistical work that goes into getting projects off the ground. Also, long term nature of these projects does not fit the business model of most banks thereby limiting participation by the domestic private sector.

Policy framework

Inefficient subsidization of high-risk sector

Pakistan' GHG economic profile is such that agriculture, forestry, and other land use (AFOLU) segment contributes 46% to Pakistan's GHG emissions (out of which agriculture holds ~ 50%). Furthermore, there are no targets for climate impact reduction through action in this sector. Given that the agriculture sector employs a large volume of labour, covers vast lands geographically, and is a major contributor to Pakistan's economy, it is also one of the leading sectors causing socio-economic risk due to climate-led events.

The agriculture sector suffers from one of the lowest levels of labour productivity and has shown both the smallest reallocation relative to peers and the smallest improvement in labour productivity. At the same time the sector continues to be heavily subsidized; the government's large-scale interventions in agricultural markets have included support prices for raw and processed goods, and significant preferential taxation treatment, for both income and inputs. The policy interventions have therefore not led to innovation and productivity growth on one hand and equitable distribution of gains among stakeholders on the other.

Overall, this has led to the calcification of the resources in the agricultural sector at the expense of more productive segments of the economy. The agriculture sector holds the key to economic development, and climate mitigation and adaptation action for Pakistan. The transition to a new economy needs to be made while managing the transition risk of the old agriculture economy.

No mandatory disclosure regulation for corporate sector

Both the Securities Exchange Commission of Pakistan (SECP) and the State Bank of Pakistan (SBP) have so far taken a voluntary disclosure and compliance approach towards the private sector responsibility on sustainability and climate change. The SECP have issued a voluntary director responsibility draft amendment to the code of corporate governance in 2024, and more recently, have also sought stakeholder feedback on a phased timeline of corporate disclosure on sustainability and climate change. The SBP published an Environment and Social Risk Management guidance at the end of 2022 for financial institutions to voluntarily integrate by the end of 2025. The absence of mandatory and uniform disclosure requirements for financial and non-financial entities restricts development of climate and sustainability driven products, innovation, and corporate sector mobilization.

Capabilities

Weak capacities of private sector on risk assessment and reporting

Based on consultations with financial and non-financial private sector, it is noted that the top barrier for climate action integration in their business planning is lack of knowledge, guidance and capability on risk identification, management, and reporting. The private sector is unable to identify and assess its physical and transition risks effectively; financial institutions are delving into portfolio risk assessment with a non-standard approach and given lack of data availability and lack of know-how of scenario planning and issues with access to geographic, sector and activity-based risks, non-financial companies are restricted in their journey towards comprehensive market relevant climate and sustainability reporting.

Gaps in government's institutional capacity

The government has suffered from lack of continuity in personnel due to political instability in recent years, and from gaps in technical know-how due to lack of organizational mechanisms to ensure sustainability of knowledge transfer from donor appointed consultants. Given the long-term nature of climate finance projects, institutional memory is key to sustaining knowledge, effective projects implementation and obtaining desired outcomes.

Lack of government facilitation and coordination

Weak climate action coordination

There are different climate finance units with overlapping responsibilities at the federal level. Also, provinces are largely working in silos, with lack of systematic coordination with relevant ministries and alignment of activities with national strategies and climate roadmaps. The National Climate Change Policy and the provincial policies, respectively, have noticeable differences in recognition of challenges, stated policies and prioritization of actions. Additionally, in some provinces, climate change policies have still not been approved, nor the

implementation action plans, without which sectoral adaptation and mitigation is not possible.

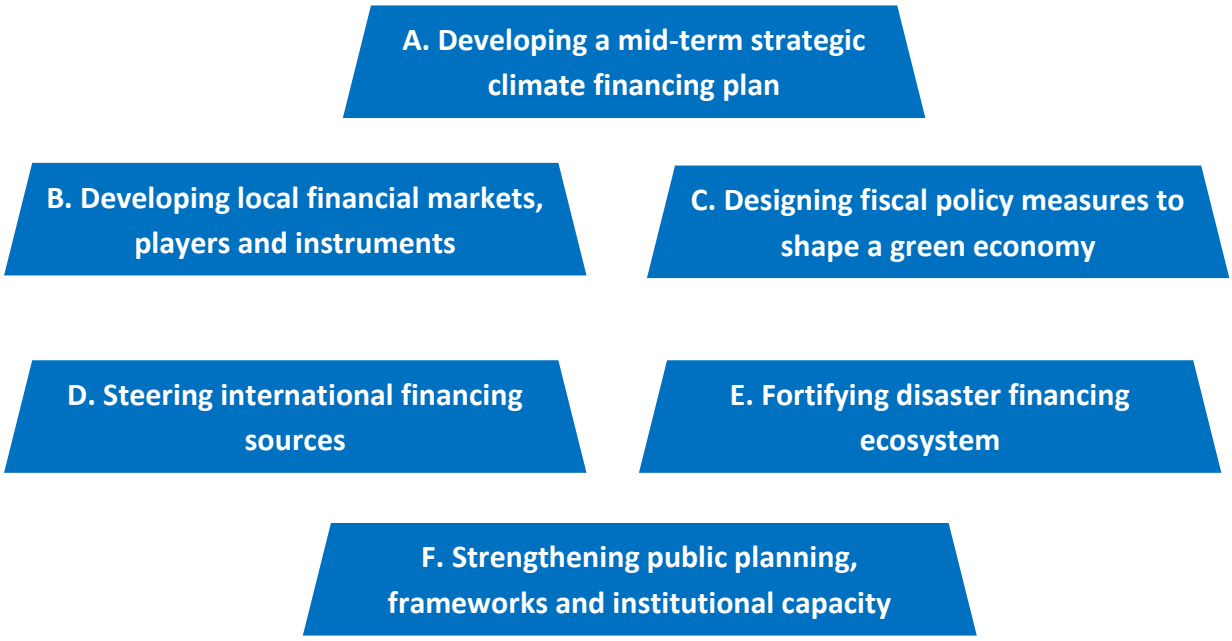
Furthermore, there is limited alignment with external stakeholders like multilateral institutions and private sector players, leading to sub-optimal allocation of resources and limited contribution to NDCs.

Data availability for the investor community is inadequate and inefficient

In Pakistan, lack of centralized platform to access evidence on climate issues and climate finance means potential investors whose decisions are based on reliable and sound data of climate projects are unable to participate in funding opportunities. For example, lack of diagnosis with respect to sectors most impacted by climate, working conditions and lack of a clarity of how to adapt a just transitions approach adds to investment uncertainty. Furthermore, information that exists is scattered across several ministries, departments and agencies making it difficult to get a comprehensive view on interventions within the climate space. It is also noted that in some cases multiple dashboard efforts are in play for tracking climate finance at provincial and federal levels which causes duplication of effort and communication inefficiencies between investors and the government.

8. Climate financing for Pakistan: Strategic recommendations

To accelerate Pakistan's progress towards meeting its climate financing ambitions six strategic future-oriented pathways are being recommended for consideration by stakeholders:



8a. Developing a mid-term strategic climate financing plan

Through its Nationally Determined Contribution and National Adaptation Plans, Pakistan has established broad sector-based goals, action plans, key performance indicators and identified respectively responsible stakeholders. It is recommended that the National Climate Finance Strategy should be expanded to include a mid-term national climate financing plan.

A national climate financing plan would firstly break down Pakistan's 2030 climate financing needs by focal area (mitigation, adaptation, or resilience) by sector, and by province where relevant. It is assumed that the financing needs will be broadly estimated based on required initiatives and projects (both existing and to-be-identified). Importantly, this plan would entail identifying optimal climate financing sources, both public and private, and financing instruments per targeted sector by focal area. Based on completion durations of these initiatives and projects, the financing needs and targets should be phased over the mid-term time horizon.

Given the priorities, strengths and complementary nature of different climate finance sources, Pakistan should devise a climate financing portfolio strategy to meet its climate

finance needs. Such a climate finance strategy will maximize its chances of tapping each financing source, ensure the right scale for each type of finance, reduce cost of capital while accelerating meeting its climate financing gap.

At one end are investments that have relatively robust revenue streams and require shorter duration financing. These can be largely pegged for financing by the private sector and could include investments in particular energy system transformation areas like fleet electrification, energy efficiency for both buildings and industry, industrial processes, and sustainable agriculture. Corporations, households, and the financial institutions should be mobilized towards gearing up investments in these areas. The private sector could also be steered towards renewable energy, transport infrastructure, green hydrogen and even some areas of adaptation which have clear revenue streams but are often subject to policy and technology risks and require a long tenor of financing. Attracting private finance towards these areas will require reducing the cost of capital, risk reduction mechanisms at scale and significant proportions of blended finance.

International public finance should be mobilized in supporting substantial public investment needs where there are projects with long durations and solid economic returns, however, where revenue streams are not adequate to attract private finance. Multilateral development banks can play a particular role in such domains, for example in energy transformation related areas like transmission, distribution, and storage.

Concessional finance from multilateral and bilateral sources should be focused on areas where there are less defined returns. These would primarily include adaptation and resilience areas and investing in natural capital areas like biodiversity and afforestation. Grants from international sources should also be added to these climate action areas, in addition to being used for coping with loss and damage events. Domestic public budgets, both national and provincial, should be directed mainly towards adaptation and resilience-oriented activities. Provincial budgets should be compatible with their vulnerability to climate change and potential for developing productive projects. Private sector philanthropy from both corporations and households can be leveraged to meet disaster relief related costs.

Such an approach would firstly be highly beneficial in providing direction and progress tracking towards Pakistan's climate financing ambition. It would also provide clarity in decision-making when mobilizing financial sources, based upon cost efficiency, financing access time required, and confidence in implementation. At the same time, it will provide transparency, ownership, and commitment to financing sources and stakeholders towards the contribution they are making towards Pakistan's climate action plan.

8b. Developing local financial markets, players and instruments

There is a clear scope in Pakistan for developing the local financial markets and innovative green financing tools and solutions, and their associated suitable implementation mechanisms, which will not only draw a wider market participation but also accelerate its efforts towards meeting the targeted climate financing. Key initiatives recommended in this arena are:

A Concrete Action Plan for Developing the ESG Market

While the national regulators have been active in stakeholder consultations, defining road maps, and forging capacity-building collaborations towards building an ESG capital market, concrete and decisive industry shaping actions are required to accelerate Pakistan's progress towards joining the fast-growing global ESG market.

Firstly, the debate about corporate sustainability and climate reporting, whether to be voluntary or mandatory, should be closed in favor of mandatory reporting. Such a regulation can now be introduced given that international sustainability standards for climate reporting have been globally introduced with sufficient guidance for local adoption. Other supportive corporate governance regulations should also be introduced including areas related to independent assurance of sustainability disclosures, board composition and board performance linkage to ESG performance.

Once standardized corporate ESG disclosure and data becomes available, a parallel active development of ESG assessment frameworks, ESG ratings and ESG index by capital market participants should be encouraged. These tools will then facilitate participation of local and international institutional investors, asset managers and mutual funds, leading to a new sustainable stream of climate financing.

Green *sukuks* launch

As macro-economic indicators continue to improve in 2024 in Pakistan, green *sukuks* issuance can play an instrumental role towards climate finance given its size and alignment with Pakistan's context. Interest rates have been falling and the local currency has stabilized over the last year, factors which will be more attractive to both local and international participation in the *sukuk* offering. Other supportive ecosystem initiatives that are in place by regulators include a guideline for issuance of green bonds, an ESRM guideline for financial institutions, and green taxonomy framework (work in progress). Given a growing demand for sharia-compliant instruments, a *sukuk* offering is better suited than a conventional bond. Furthermore, Pakistan not only has an established *sukuk* market but already has the experience of issuing a green bond successfully. A sovereign green *sukuk* issuance is recommended at start to maximize participation, to be followed up by government supported private green *sukuks*.

At the same time, other facilitative initiatives will be required to ensure robust participation, and success of a green *sukuk*, including availability of green investment projects, capacity building initiatives for local private sector, and suitable incentives for investors.

Green insurance sector development

Pakistan's insurance industry can play a key role in supporting the green transition for the overall ecosystem. Firstly, attractive insurance products can be developed to support innovative and new technology-based green solutions including those within the areas of energy efficiency, agriculture technology, renewable energy, green buildings, etc. At the same time, appropriate risk premiums should be built into insurance of assets which carry climate related risks including against floods, droughts, and other extreme weather events to enable a green transition. The Natural Catastrophe Model developed by the National Disaster Risk Management Fund (NDRMF) could be leveraged by insurers towards this end. Furthermore, the insurance sector will have to actively build its capacity to provide technical support and services towards environmental risk appraisal systems, and to develop relevant products.

Secondly, insurance companies, like commercial banks, should be encouraged to include ESG integration in their investment, portfolio, and own operations. This can help bolster not only the development of sustainable business practices but also the overall climate orientation of the capital market ecosystem in Pakistan.

Development and participation in carbon markets

Establishing and participating in carbon markets will serve a multi-pronged climate agenda for Pakistan, in terms of generating additional financial resources, mobilizing private sector financing, driving investment in sustainable projects, and accelerating meeting Pakistan's nationally committed climate targets.

This workstream will require the government to prepare or facilitate preparation of appropriate projects in the various priority sectors that can generate high quality carbon credits. Furthermore, investors and other market participants will require complete clarity on sector prioritization, project authorization and accounting criteria, and administrative processes involved. Significant stakeholder consultations and capacity building is also foreseen for a successful implementation of a carbon trading mechanism.

Active participation of the banking sector

The Banking Association should be brought on board as a partner in the government's efforts towards green finance, since all banks, in particular microfinance banks, are impacted significantly by climate related detriments to asset quality.

SBP should consider making its ESRM framework implementation a mandatory obligation and set green financing targets for banks. SBP should engage with banks senior management and gain their commitment to align lending and/or investment portfolios with the NDC, Paris goals and SDGs. Banks should be mandated to publicly communicate their targets and progress as part of their financial disclosures.

SBP should extend its green policy to include projects pertaining to green housing, electric and hybrid electric vehicles, and green industries. Since economic volatility is a major hurdle in drawing investments and developing projects in Pakistan, it is important that the government and the regulators pool in their expertise to develop a de-risking framework for green finance and associated products and services.

International cooperation should be sought for development and implementation of common standards and best practices for green finance, to facilitate the sharing of knowledge and expertise, and to mobilize resources towards sustainable investments.

Collaboration between governments, financial institutions, and other stakeholders is essential to facilitate the transition to a green financial system. This could include partnerships to develop new financial products, joint research initiatives, and information sharing networks.

8c. Designing fiscal policy measures to shape a green economy

Policies aimed at inducing changes in relative prices and efficient consumption to guide households and firms toward a more carbon-neutral economy should be phased in as per market appetite and economic readiness.

Sectoral tax imbalances should be addressed to provide a competitive opportunity to diverse and green investments versus those concentrated in conventional practices for example in agriculture and real estate sectors. This will help promote economic activity, diversify investment interest, and develop the economy.

Governments can provide tax incentives for green investments including tax credits or accelerated depreciation for green investments, which can help attract private sector investment and promote sustainable economic growth.

The government should consider concessionary rates for the import of equipment and materials used in bankable green projects, to increase investor appetite and tilt investment, both local and foreign, towards green opportunities. Selection of materials to be included in such a policy should be driven from priority climate sectors and taxonomy defined activities.

Operationalizing sector-level climate finance through policy

Pakistan can operationalize private and public finance at a sector level by developing sector-level policies and mechanisms. Some key climate adaptation and mitigation-oriented sectors for Pakistan and related focused mechanisms to operationalize climate finance through them are discussed below.

Making the transition to electric vehicles

This sector is part of Pakistan's ambitious NDC targets of achieving a share of 30% EV sales by 2030, and therefore, requires that Pakistan's National Electric Vehicle Policy measures should be followed through to drive the transition.

The market requires more awareness and data driven advocacy on the electric vehicles sector to build public trust in the cost-saving and environmental benefits of e-bikes, e-rickshaws, and EV cars. The primary barrier towards building demand for the EV sector is its price, lack of standards, and limited charging infrastructure and a battery recycling market. Sector policies, therefore, must encompass encouraging local production of EVs to make them more affordable, for example through government-to-government contracts enabling international battery manufacturing companies to operate out of Pakistan, and government-backed financing schemes, lower taxes, duties, and low-interest loans to support adoption. Policies must focus on developing a comprehensive EV ecosystem, for example through installation of EV infrastructure being made mandatory for all new real estate projects, preparing battery recycling programmes, and have vehicle safety, fuel economy, and average vehicle fuel efficiency standards in place.

Concessional financing schemes by financial institutions for faster adoption of electric vehicles should be offered to drive domestic demand including lower lending rates, longer financing periods and higher financing caps than conventional vehicles.

Once demand parameters are set, scalability should be focused upon via measures such as transition of public transportation to electric vehicles and encouraging corporate entities to shift their employee transportation fleets to EVs as part of their sustainability commitments.

Climate-smart agriculture: Addressing adaptation and mitigation objectives

Crop cultivation is severely affected by drought and extreme heat, which, among other things, jeopardize yields and outputs. Traditional climate-smart practices, such as crop diversification and rotation, enhance resilience and efficiency. Ensuring water availability through efficient management practices, such as recharging groundwater is vital. Strengthened disease surveillance and control measures are also essential to protect crops and maintain agricultural productivity.

Additionally, local level initiatives aimed at increasing capacity of farmer communities can be very effective. These can include training programs to educate farmers on efficient water and soil management techniques, strengthening weather monitoring systems and establishing

communication channels to disseminate weather forecasts and advisories to farmers in a timely manner.

Overall, an enhanced financial incentives policy and structure towards climate smart agriculture should be developed. In addition to better credit terms, credit tools can be designed towards research and development, technology, and processes to enhance water conservation, diversification of crops and improved land management. These incentives, particularly those driven towards small holder farmers in building climate resilience, can be financed through repurposing of existing subsidies to selected sectors. To facilitate transition towards climate-smart and regenerative agriculture, research, extension services, and strengthening of multi-stakeholder forums would also be required. As investment and transition in the agriculture sector takes place, it would also be important to establish appropriate monitoring, reporting and verification processes to track progress in sector emissions and mitigation objectives.

Given the complex nature yet importance of the agriculture sector, creation of a blended-finance oriented sector fund should be considered by the government. Such a fund would attract multilateral funding in addition to domestic private financing through its high impact orientation. Of particular importance and gaining wider consensus is the integration of insurance tools in the agriculture space to support climate adaptation. The Government of Pakistan ought to focus on enhancing the regulatory framework for insurance and attract the participation of private insurers. Furthermore, if climate smart agriculture projects can be aligned to national adaptation goals and targets, it can attract insurance from international public finance sources as well.

Driving finance towards energy efficiency

Energy efficiency is one of the lowest hanging fruits to address the energy challenges of Pakistan and towards meeting a significant proportion of Pakistan's mitigation finance needs.

With leading initiatives such as green building codes, energy efficiency targets, minimum energy performance standards being developed, a comprehensive strategy can address the transition towards energy resilience, while also strengthening climate adaptation and resilience efforts.

Enhanced financing schemes to encourage local manufacturing for domestically made energy-efficient products can make these options more accessible to the public. Furthermore, government can certify and endorse products to help build consumer confidence in these products. Policies to promote circular economy to ensure no e-waste is generated and that materials are conserved can drive energy, resource, and cost efficiency. Operationally, partnerships with manufacturers to establish buyback or trade-in programs for outdated, high-energy-consuming appliances can streamline the transition. Furthermore, partnerships with electric supply companies on financing and facilitating replacement and installment of energy efficient equipment can serve as effective integration mechanisms.

Debt-for-nature swaps

Given Pakistan's vast natural resources and its high debt servicing obligations, Pakistan government should actively consider the globally growing debt-for-nature swap tool to finance key climate and nature-related long-term projects.

Such an instrument can benefit lowering Pakistan's foreign debt obligations, provide an improvement in the government's fiscal position, and open a new avenue for foreign investment. At the same time, the freed up fiscal resources can be used to build resilience for specific climate vulnerable issues or towards protection of bio-diverse natural assets.

Such instruments have been growing in use and have been successfully used by many countries like Costa Rica, Barbados, Philippines, and Seychelles. At the same time, such instruments involve multiple stakeholders and sub-instruments like guarantees and insurance and are complex and can take a long time to negotiate, and therefore the size of the transaction should be substantial to deliver a meaningful outcome towards the underlying objectives.

8d. Steering international financing sources

Given the current and expected weightage of international financing sources in Pakistan's climate financing mix, its proportionately less share of international financing versus the peer-group, and the parallel need to steer its international debt burden and domestic private financing sources, the government should lay out a focused strategic approach towards maximizing and optimizing international financing. Key elements that can be considered for this strategic approach are as follows:

In the overall mid-term climate financing strategic plan, the weightage of international debt financing within the total climate financing mix should be set and managed keeping in view the associated costs and Pakistan's debt ratio. Towards this end, the government should continue to push for concessional climate funding to provide maximum space in its debt obligations.

This will require prioritizing and steering international finance and respective international instruments financing towards targeted projects and initiatives. For example, international finance, particularly from multilateral development banks, should be prioritized in projects and initiatives which aim to tackle barriers and build local private financing participation through blended finance mechanisms like de-risking tools, concessional loans, etc. International finance should also be prioritized towards adaptation and resilience projects. Furthermore, international financing sources, given their expertise, can be well leveraged towards building local public institutional capacity and in areas like investment planning and project pipeline development.

Pakistan should also engage with international financing sources in highlighting and improving their support effectiveness. For example, it is learnt through stakeholder engagements that while international development finance institutions do have a climate lens to their development programs majority of programs are not climate focused. Given the importance of climate action in developing countries including Pakistan, it is important that these institutions review their development budgets planning and plan a significant allocation of it primarily from a climate lens, additionally delivering other development co-benefits like driving inclusivity or consideration for marginalized groups. Such an exercise will support developing countries in meeting and measuring their climate financing targets achievement. Secondly, given the known international climate financing complex and fragmented infrastructure, the government should continue to advocate for simplifying their criteria and disbursement process, to bring agility and speed to the funding process.

Finally, Pakistan should step up its international diplomacy efforts to update the international community multidimensionally on its climate and economic vulnerability on one hand, and the climate financing ecosystem readiness and the investment opportunity it offers. Given that international financing is likely to remain the primary source of climate financing in the mid-term, Pakistan should continue to tap into new bilateral and multilateral funds and financial institutions as well as increasing its share of currently engaged international financing sources.

8e. Fortifying Pakistan's disaster risk financing ecosystem

It is recommended that Pakistan government plans proactively towards building a robust disaster risk financing ecosystem through traditional and innovative disaster financing sources backed by a robust scientific climate risk assessment analytical model and prepares an implementation plan in line with the Sendai Framework. Historically, grants from local and international donor groups, loans from multilateral institutions and government allocations have been commonly used tools to finance natural disasters.

Pakistan's expatriate community, a proven efficient source for raising financing for national issues, should be proactively approached to re-channel their intended charitable remittances towards national climate disaster funds.

The size of philanthropic market in Pakistan is estimated to be more than US$2 billion, the largest chunk of it being sourced from individuals and households. Furthermore, as most of the charity is given in cash form it is difficult to measure the exact size of this market. Majority of philanthropy is geared towards providing food while health and education form the other major recipient groups. As per the Pakistan Centre for Philanthropy (PCP) Pakistan's corporate sector donated about PKR 23.65 billion for various social sector causes in 2023, the largest share of which came from public listed companies. The corporate sector philanthropic contributions significantly escalated during the 2022 floods. Given the size of the

philanthropic market in Pakistan, its effectiveness particularly towards climate-related resilience and disaster management financing can be significant, and the public sector could proactively determine mechanisms to channel a major share of these pool of funds towards climate action.

Furthermore, the private sector should be engaged and incentivized through guidelines, subsidies, and tax benefits to develop the local insurance market for disaster-prone assets. This would also require developing re-insurance mechanisms to support the local insurance industry. Furthermore, negotiations with multi-lateral banks for disaster relief financing should stress on including contingent disaster financing components which can be triggered instantly upon a state of disaster-based emergency.

Development of innovative disaster financing mechanisms is also highly dependent on a robust climate risk and loss analytical model which Pakistan is in the process of developing. Such a model would help establish designing appropriate financing tools for each layer of risk given the relative cost-effectiveness of alternative instruments and the relevant disbursement phase.

8f. Strengthening public planning, frameworks and institutional capacity

The Pakistan government has taken several measures in last few years to accelerate the country's climate financing ambition, however, taking after taking stock from the supply side it is recommended to close the gap on required planning and policy measures as below:

Planning measures

The required budgetary planning highlighted earlier in this section should be complemented by a robust and transparent tracking of climate financing achieved, and the resulting gap on a continuous basis for better stakeholder engagement and monitoring progress.

The budgetary process established in Pakistan's Public Financial Management (PFM) system should also integrate climate change at each stage of the budgetary process, including the Medium-term Expenditure Framework (MTEF) for setting a long-term agenda and the Medium-term Budgetary Framework (MTBF), used by ministries for setting their short-term budgets and projects planning. It is recommended for line ministries to prioritize and plan for climate sensitive development projects which would be dependent on ministries analysis of how climate change impacts and risks could affect their respective areas. Furthermore, climate change impact assessment mechanisms can be included in project selection criteria by line ministries and departments across respective sectors. The Climate Public Investment Management Assessment (C-PIMA) framework is recommended for use to assess the integration of climate change polices across the full budget cycle.

A climate budget-tagging process is recommended for the government, both at federal and provincial levels, in their budget planning exercise. Such a process will not only help identify

and track climate related spending but also assist in ascertaining the budgetary requirements for climate action related initiatives across line ministries. This will also enable producing a separate report on climate finance related expenditures.

Robust transparency and accountability mechanisms in procurement and disbursement processes will contribute towards climate financing achieving their intended purposes and preventing their misuse or corruption.

It is important that both the NAP and the NDC follow an integrated monitoring and evaluation mechanism in their shared goal of combating climate change. A broader monitoring, reporting, and verification (MRV) system is required to establish historical baselines, validate data quality, analysis of mitigation policies implementation, and reporting compliance. Towards this, national agencies would need to provide related key data to build a database which should be fully consistent for national reporting and feeding into the Paris Agreement's global stock-take. Similarly, by systematically tracking, evaluating, and reporting progress towards established adaptation targets, through a monitoring and evaluation (M&E) system, it will enable policymakers to identify the interventions that work and yield positive outcomes, and will ensure that stakeholders remain committed and motivated.

Developing facilitative frameworks

Pakistan is on its way to developing a green taxonomy which will have significant importance in addressing key challenges and facilitating climate financing into Pakistan. One of the major benefits of developing a green taxonomy is the creation of environmental standards and practices to avoid green-washing, helping investors to make informed investment decisions. Another benefit is the development of robust and reliable green finance market, and elimination of inconsistencies arising from differing definitions and criteria for green finance across different sectors and regions leading to policy misalignment. Once a green taxonomy is developed, there will be awareness creation which leads to institutional capacity and expertise to identify activities that deliver environmental and sustainable objectives.

To attract private domestic or foreign investment, a continued improvement in Pakistan's legal and institutional framework for public-private partnerships (PPPs) is required. These frameworks, existing at federal and provincial levels, can be fortified from a climate lens by integrating climate related costs and considerations in project design and evaluation stages. Furthermore, there is plenty of opportunity in Pakistan for the private sector to finance green infrastructure projects, such as RE installations, and to implement adaptation actions in collaboration with the government and development partners. The government could take steps to facilitate PPPs by offering financial incentives or providing technical support.

Effective coordination is required to enable vertical coordination of actions between national and subnational governments as well as enable horizontal coordination between line ministries. This would require establishing an effective governance mechanism through

committees and information systems that cut across vertical and horizontal government organizational layers.

Capacity building measures

Domestic public technical capacities need to be strengthened to access international climate finance. This would include how to make projects attractive and bankable, attaining a clear understanding of process of submitting proposals to international climate funds, developing implementation agencies capabilities, undertaking monitoring and evaluation systems, and establishing robust governance processes. The same level of capacity should be built in parallel for private players interested in tapping into international climate funds, and in participating in public-private-partnership based projects.

To develop innovative financial instruments regulators and financial institutions need to nominate their respective internal teams who should get trained from international experts on the functioning and optimization of these instruments as per the local context.

The industrial sector capacity building efforts, already underway through international development finance institutions in collaboration with local institutes, should be expanded in scope to include the small and medium enterprises with a potential to participate in the global export market, and should be accelerated at the board, management, and executive levels to engage them on the business case, to carry out risk assessments, to understand the green taxonomy and undertake green investments, and to be facilitated on various pathways to participate in greening the economy.

9. Fieldwork

9a. List of reports and documents researched

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United Nations High Commissioner for Refugees (UNHCR), *No Escape*, November 2024.

9b. List of stakeholder consultations held

- Mr Muhammad Arslan Iqbal, Chief Risk Officer, Bank of Punjab
- Mr Jafar Raza, Chief Risk Officer, JS Bank
- Mr Moin Iqbal, Chief Investment Officer, Infrazamin
- Mr Dawar Butt and Mr. Mekaael Malik, Co-founders, Climate Finance Pakistan
- Mr Bulent Suhail, Managing Partner, Sohail and Partners
- Mr Salman Mian, Senior Project Officer, Asian Development Bank
- Ms Anna Balance, Senior Climate Change Advisor, Foreign Commonwealth and Development Office of the United Kingdom, Pakistan
- High-level Climate Finance Forum – Sohail and Partners; Resources Future, 31 October 2024
- From fragility to resilience: 27th Sustainable Development Conference, 4–7 November 2024

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