

Scaling Sustainable Finance

Lessons and Success Factors from the Parwaaz Green Action Bond



Scaling Sustainable Finance: Lessons & Success Factors from the Parwaaz Green Action Bond
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Authored by: Zero Point Partners

Tahreem Fatima - Associate, Corporate Sustainability
Omer Farooq Malik - Associate, Corporate Sustainability

Technical review by: Maha Qasim - Climate Finance Expert

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List of Abbreviations

ADB	Asian Development Bank
AF	Adaptation Fund
BAU	Business-as-Usual
CAGR	Compound Annual Growth Rate
CIFPAK	Climate Investment Fund for Pakistan
CO ₂	Carbon Dioxide
CO ₂ e	Carbon Dioxide Equivalent
ESG	Environmental, Social and Governance
FCDO	Foreign, Commonwealth & Development Office
GCF	Green Climate Fund
GDP	Gross Domestic Product
GEF	Global Environment Facility
GHG	Greenhouse Gas
GBP	Green Bond Principles
ICMA	International Capital Market Association
IFS	Investment Finance Services
IMF	International Monetary Fund
kWh	Kilowatt-hour
MDB	Multilateral Development Bank
MOBILIST	Mobilizing Institutional Capital Through Listed Product Structures
MW	Megawatt
MWp	Megawatt Peak
MtCO ₂ e	Million Tons of Carbon Dioxide Equivalent
NBFI	Non-Bank Financial Institution
NDC	Nationally Determined Contribution
NPO	Non-Profit Organization
PACRA	Pakistan Credit Rating Agency
PET	Pakistan Environment Trust
PFSL	Parwaaz Financial Services Limited
PGAB	Parwaaz Green Action Bond
PGT	Pakistan Green Taxonomy
PKR	Pakistani Rupee
PPP	Public–Private Partnership
PSX	Pakistan Stock Exchange

SBP	State Bank of Pakistan
SDGs	Sustainable Development Goals
SECP	Securities and Exchange Commission of Pakistan
SMEs	Small and Medium Enterprises
SPO	Second Party Opinion
TA	Technical Assistance
TFC	Term Finance Certificate
UK	United Kingdom
USD	United States Dollar

Executive Summary

Despite contributing less than 1% to global greenhouse gas emissions, Pakistan ranks amongst the top 20 countries most impacted by climate change (Adil et al., 2025), with average annual disaster losses exceeding USD 2 billion per year (Asian Development Bank, 2025). While the country has articulated ambitious climate and sustainable development objectives, a substantial financing gap persists, particularly for Small and Medium Enterprises (SMEs). SMEs are a vital component of the country's economy yet have limited access to climate finance and remain increasingly vulnerable to climate shocks. Traditional sources of climate finance that are primarily sovereign-led and donor-funded have proven insufficient, constrained by fiscal pressures, lack of stakeholder inclusion, and limited scalability.

Against this backdrop, Parwaaz Financial Services Limited (PFSL) has launched Pakistan's first PKR-denominated, rated and secured medium-term green bond. The Parwaaz Green Action Bond (PGAB) aims to mobilize domestic private capital for SMEs' climate-positive investments. With an issue size of PKR 1 billion, the bond finances and refines initiatives across sectors such as renewable energy, sustainable agriculture and clean transportation, promoting environmentally sustainable economic growth. The PGAB's portfolio covers high energy-intensity industries such as textiles and steel, enabling measurable and immediate emissions mitigation through financing of sustainable solutions. Building on this momentum, the Future Fund Allocation Strategy expands its scope into critical social sectors, such as health and education, aligning the PGAB with PFSL's broader sustainability objectives to promote socio-economic resilience.

Enabled through the technical assistance and critical support of the UK government's Mobilizing Institutional Capital Through Listed Product Structures (MOBILIST) program, PGAB has been developed with PFSL as the bond issuer, Karandaz as the lead advisor, Mohsin Tayebaly & Co. as the legal partner and Pak Oman Investment Company Limited as the investment agent. The bond is structured through a robust governance and operational framework. The bond's framework aligns with Pakistan's Green Bond Guidelines and the International Capital Market Association's (ICMA) Green Bond Principles (GBP), a voluntary set of guidelines with a strong emphasis on transparency, accountability and integrity in Green Bond issuances and reporting processes. It has also been validated by the Pakistan Environment Trust (PET) Pvt. Ltd. and is the first ever green bond to be listed on the Pakistan Stock Exchange (PSX).

PFSL has mobilized a robust pipeline of green projects and initiatives, driving environmental impact and sustainable growth through the bond proceeds. As of 2025, the PGAB has enabled 21 MW of renewable capacity, generating 31,273 MWh of electricity annually. This has resulted in mitigation of 16,981 MT CO₂ - equivalent to the carbon sequestration potential of around 1.2 million trees. The PGAB marks a significant milestone in Pakistan's efforts towards climate resilience and sustainable economic growth. It demonstrates how domestically mobilized, PKR-denominated private capital can be effectively deployed for climate finance and support sustainable development.

1. Introduction

Pakistan's intersecting development challenges, from a fragile economy and dwindling fiscal resources to environmental degradation and deteriorating human development are intensified by the climate crisis. Despite contributing less than 1% to global greenhouse gas emissions, Pakistan ranks among the top 20 countries most impacted by climate change (Adil et al., 2025). Average annual disaster losses exceed USD 2 billion per year (Asian Development Bank, 2025). The 2022 floods alone resulted in damage exceeding 14.9 billion, with total economic losses reaching about USD 15.2 billion (World Bank, 2022). These climate shocks have become recurrent disruptions that erode productive assets, damage infrastructure, and disproportionately impact critical sectors such as energy, transport, agriculture and industry.

Pakistan's capacity to respond to climate risks remains severely constrained due to economic fragility and externally driven climate finance, creating a gap between climate ambition and action. Within this context, Small and Medium Enterprises (SMEs), a vital driver of Pakistan's economic growth, remain absent in Pakistan's climate finance discourse. Structural barriers such as limited collateral, perceived credit risk and a lack of suitable financing instruments have restricted sustainable economic growth and limited the country's green transition.

Responding to this challenge, Parwaaz Financial Services Limited (PFSL) is at the forefront of empowering SMEs through innovative financial solutions. Established by Karandaz Pakistan, PFSL was initiated in 2021 as a mission-driven non-bank financial institution (NBFI) licensed as an Investment Finance Services (IFS) provider by SECP. Its mandate extends beyond credit provision, aiming to unlock enterprise productivity, competitiveness and resilience by aligning economic growth with social and environmental resilience. In just three years, PFSL has built a strong portfolio with high asset quality, demonstrating its commitment to supporting SME growth and sustainability. PFSL has successfully disbursed PKR 4.5 billion towards its portfolio spanning Punjab, Sindh, Khyber Pakhtunkhwa (PFSL). It covers a wide range of sectors such as manufacturing, agriculture and forestry, transportation and storage, electricity and power sources, wholesale and retail trade, with a particular focus on social inclusion and gender empowerment. Since inception, PFSL has demonstrated strong growth in portfolio development with a CAGR of over 102.7% from 2022 to 2024 (PFSL).

In 2025, PFSL launched the Parwaaz Green Action Bond (PGAB), Pakistan's first PKR-denominated, rated and secured medium term green bond, with a total issuance size of PKR 1 billion. This green bond aims to mobilize domestic private capital for SMEs' climate-positive investments, and is a subset of PFSL's larger PKR 4.5 billion commitments to regional socioeconomic development. Green bonds are defined as any type of bond instrument where the proceeds or equivalent amount will be exclusively applied to finance or re-finance, in part or in full, new and/or existing eligible Green Projects and are aligned with the four core components of the Green Bond Principles (ICMA, 2021). The Green Bond Principles are a voluntary set of guidelines with a strong emphasis on transparency, accountability and integrity in Green Bond issuances and reporting processes. Its four components include (i) Use of Proceeds, (ii) Project

Evaluation/Selection, (iii) Management of Process, and (iv) Reporting, aiming to establish transparency and trust for investors.

PGAB presents a significant milestone in Pakistan's climate finance landscape. Rated AA- by PACRA, the bond indicates very high credit quality with a significantly low risk of default. This signifies the PGAB's ability to meet financial obligations in a timely manner, securing investor confidence. The bond's framework further aligns with Pakistan's Green Bond Guidelines and the International Capital Market Association's (ICMA) Green Bond Principles (Annex 1). It has also been independently validated by Pakistan Environment Trust (PET) Pvt. Ltd. and is the first ever green bond to be listed on the Pakistan Stock Exchange (PSX). The bond finances and refinances initiatives in Punjab and Sindh and spans sectors such as renewable energy, sustainable agriculture and clean transportation. The PGAB's portfolio covers high energy-intensity industries such as textiles and steel, enabling measurable and immediate emissions mitigation through financing of sustainable solutions. Continuing this momentum and scaling action, the Future Fund Allocation Strategy intentionally broadens the scope to include education and healthcare sectors. By doing so, PFSL aligns the PGAB with the full spectrum of its sustainability objectives. While industrial projects deliver impactful carbon reductions, social infrastructure such as schools and hospitals, are supported to generate long-term community resilience and value. This balanced approach embedded in the PGAB's framework ensures both climate resilience and socioeconomic development through green finance.

Supported by specialist expertise from the UK government's Mobilizing Institutional Capital Through Listed Product Structures (MOBILIST) program, PFSL played a pivotal role in structuring and successfully listing the PGAB. MOBILIST is a flagship UK government program that supports investment solutions that help deliver the Global Goals for Sustainable Development and the climate transition. MOBILIST identifies blockages impeding viable products from listing by providing equity capital, technical assistance and the UK government's backing to address barriers and create the environment needed for products to list on public markets and stock exchanges.

MOBILIST is guided by the core principles of scalability, replicability, commercial viability, additionality and feasibility. The program seeks to bring products to market that are attractive to mainstream investors and that, at the same time, enable investors and investees to help tackle the pressing social, economic and environmental challenges facing our world. MOBILIST works with issuers, asset owners, asset managers and their intermediaries to act as a bridge to each other, policymakers, new market participants and investors. In addition to supporting product listings, the program conducts original research to guide and validate its work as well as share lessons and experiences. This market-driven data and research is publicly available and designed to inform the investment and policy communities.

Through this collaboration, the PGAB was designed to align with national and international regulatory frameworks, Pakistan's economic landscape, and evolving investor expectations, while securing investments from nine financial institutions including Bank of Khyber, Allied Bank Limited, Bank Alfalah, Saudi Pak - Industrial and Agricultural Investment Company, Pak Oman Investment Company, Pak China Investment Company, Pak Brunei Investment Company, Pak

Libya Holding Company and Alfalah Insurance alongside regulatory support from the Securities and Exchange Commission of Pakistan (SECP) and PACRA.

The PGAB represents a strategic shift from donor-dependent and sovereign-led climate finance, towards a scalable and enterprise focused financial model. By anchoring climate finance in local currency, the initiative demonstrates a credible pathway for embedding sustainability within Pakistan's economy.

2. Background: Pakistan and the Climate Crisis

Pakistan's climate risks and challenges

Pakistan has consistently ranked among the top ten countries most affected by climate change. Over the past two decades, the country has suffered severe socio-economic losses from recurring floods and other climate-related disasters. In 2022, flooding alone caused an estimated USD 14.9 billion in damage to infrastructure and property including more than 2,000 km of roadways, along with USD 15.2 billion in broader economic losses, equivalent to about 2.2% of the country's GDP. (Foreign, Commonwealth & Development Office & Department for Business and Trade, 2024)

According to a report on bridging Pakistan's adaptation financing gap published by the Foreign, Commonwealth & Development Office (FCDO) in November 2024, climate inaction poses severe and escalating risks for Pakistan. Climate change impacts are expected to displace around 90 million people by 2030 and 400 million people by 2050. Climate disasters have also inflicted heavy damage to critical physical assets, including transportation networks, power systems, and social infrastructure such as health and education facilities. The damage caused to roads and railways by the 2022 floods alone exceeded USD 2.4 billion. This economic burden is projected to intensify, as these costs could reach USD 90 billion by 2050. Similarly, the agriculture sector is expected to face significant climate-related losses. Annual damages are projected at USD 5 billion for crops and USD 10 billion for livestock by 2050 due to rising temperatures. Furthermore, the textile industry, which depends heavily on cotton as a raw material, could also incur annual losses of up to USD 10 billion by 2050. **Overall, the cumulative cost of climate inaction in Pakistan is estimated at USD 250 billion by 2030 and USD 1.2 trillion by 2050** (Foreign, Commonwealth & Development Office & Department for Business and Trade, 2024)

2.1 Pakistan's climate finance needs and regulatory overview

Pakistan requires significant climate finance to meet its enhanced climate ambitions outlined in its climate commitments to the United Nations Framework Convention on Climate Change (UNFCCC). Under Pakistan's Nationally Determined Contributions (NDCs) 3.0 published in 2025, the country has voluntarily pledged to reduce emissions from 2,559 MtCO₂e in 2015 to 1,280 MtCO₂e in 2035. This represents a 50% reduction, of which 17% is unconditional and will be

achieved through domestic resources. The remaining 33% reduction is explicitly conditional upon the provision of USD 565.7 billion in new and additional, grant-based international climate finance, along with timely access to affordable climate-friendly technologies and capacity building.

Pakistan's NDC reflects national consensus to transition toward a climate-resilient economy through a mix of nature-based solutions, technological interventions, and large-scale capital restoration initiatives such as the flagship *Recharge Pakistan* program which is expected to enhance resilience for approximately 10 million people by restoring ecosystems, improving groundwater recharge, and reducing flood risks along the Indus Basin. Furthermore, the NDC highlights high-emitting sectors, particularly energy and industry, with plans to source 60% of energy from renewables, ensure 30% of new vehicle sales are electric by 2030, and ban imported coal.

In this context, the SECP has also established Green Bonds Guidelines to enable corporate and institutional issuers to raise capital specifically for environmentally beneficial projects. These guidelines set out eligibility criteria and procedures for issuance, requiring that proceeds be deployed to finance or refinance activities such as renewable energy, energy efficiency, pollution control and water management that align with Pakistan's environmental priorities. SECP's framework is aligned with internationally recognised standards, especially the ICMA's Green Bond Principles (GBP), which promote transparency, robust use-of-proceeds definitions, clear project categorization and regular reporting to enhance investor confidence and market integrity.

2.2 Current state of financial flows

Despite the immense need to mobilize climate finance, Pakistan's utilization of key global climate funds, including the Green Climate Fund (GCF), Global Environment Facility (GEF), Adaptation Fund (AF), and others is limited compared to peer countries like Bangladesh.

Furthermore, Pakistan's climate finance needs remain disproportionately concentrated in mitigation, particularly within the energy sector, owing to the relatively higher bankability of such projects. According to a report titled "Accelerating Green and Climate-Resilient Financing in Pakistan" published by the FCDO in November 2023, mitigation activities attracted approximately USD 3 billion, meeting around 20% of the annual financing needs under Pakistan's NDCs, while adaptation and resilience received only USD 1 billion, covering just 6% of the required annual funding.

Bankable climate projects in Pakistan face significant supply-side financing challenges that limit both international and domestic investment. International investors are deterred by high required returns (~23% annual), currency depreciation (~30% over two years), and perceived political risk, making many projects uncompetitive globally. Domestic investors and banks are constrained by credit risk, long project tenures, and risk-averse lending practices, with nearly 70% of banking credit directed to the public sector and a smaller portion going to the private sector. This is reflected in the loan-to-deposit ratio in Pakistan (46%), an extraordinarily low figure compared to

economies such as Bangladesh (73%) or Turkey (92%). (Foreign, Commonwealth & Development Office & Department for Business and Trade, 2023)

Additionally, private sector investments account for only 5% of total climate financing in Pakistan and the climate finance landscape is largely dominated by international public funding. Expanding both domestic and international private investment is essential for Pakistan to bridge its significant climate financing gap (Foreign, Commonwealth & Development Office & Department for Business and Trade, 2023). Innovative financing mechanisms like the Parwaaz Green Action Bond demonstrate potential to mobilize resources for high impact projects and help bridge this climate financing gap in Pakistan.

3. Climate Finance Landscape and Challenges in Pakistan

While the country continues to align with a low carbon transition pathway, achieving its goal remains critically dependent on effective climate finance, technology transfer, and capacity-building support. At present, the received financial support, delivered predominantly as grants and loans, is yet to materialize at the required scale. With constrained fiscal resources, the country is also expected to navigate additional requirements. In May 2025, the IMF approved an additional USD 1.4 billion under the Readiness and Sustainability Facility (RSF) to support Pakistan in strengthening economic resilience to climate shocks and natural disasters. However, this remains contingent on demonstrable progress towards building a climate-resilient economy, including reforms that enable private sector participation and reduce fiscal exposure, placing pressure on the country to develop instruments and avenues capable of translating climate priorities into bankable, investment-ready opportunities.

Pakistan has made significant strides to improve the national regulatory landscape for climate finance. The Pakistan Green Taxonomy (PGT), launched in 2025, provides a science-based classification system to categorize green economic activities and investments, offering a single and consistent definition of what is defined as “Green”. The PGT enhances transparency in green investments and financial products, enabling mitigation of climate-related financial risks, and guiding capital flows towards sustainable initiatives. The SECP’s ESG Disclosure Guidelines have also been finalized to facilitate standardized and consistent reporting by listed entities on climate-related risks and opportunities, including data aligned with the Pakistan Green Taxonomy. More recently, the State Bank of Pakistan (SBP) has also launched Climate Stress Testing Guidelines to further strengthen risk management capacity of regulated financial institutions. Hence, recent developments have strengthened the country’s ability to integrate climate considerations into its economy and institutions, providing a robust foundation for further efforts.

In terms of finance mobilization, present trends suggest that around USD 48 billion is likely to be mobilized over the next decade, approximately USD 39 billion from public sources, including

Multilateral Development Banks (MDBs), and USD 9 billion from public–private partnerships (PPPs) (World Bank, 2022). While the country has significantly progressed in developing its climate finance landscape, persistent structural challenges and severe fiscal constraints mean that public capital alone is insufficient to mobilize the scale of finance required for decarbonization.

Despite the significant gap between the investment needs and the actual inflows of international climate finance, several initiatives targeting priority sectors, such as renewable energy and sustainable agriculture, have set Pakistan on a low-carbon emission trajectory. This is supported by a diverse set of climate finance instruments, ranging from grants, concessional loans, green bonds, financing schemes, and more.

Multilateral Climate Funds

Multilateral climate funds such as the GCF, GEF and the Adaptation Fund have played a key role in supporting climate-resilient development, technical assistance and knowledge sharing. However, a comparative analysis of the GCF Dashboard reveals that Pakistan’s access to these funds has been limited. Pakistan’s constrained absorption capacity leads to ineffective management, spending, monitoring, and reporting of funds (Sheikh, 2025). Furthermore, delays in establishing appropriate financial mechanisms are also a key factor impacting the country’s ability to access climate finance (Sheikh, 2025). The GCF portfolio spans 336 projects amounting to USD 19.3 billion in GCF resources, expanding to a total of USD 78.6 billion when expected co-financing is included. Within the GCF portfolio, Pakistan accounts for 1.7% of approved financing across 11 projects, trailing peer countries such as Bangladesh (2.4% of GCF resources across 10 projects) and India (5.1% of GCF resources across 16 projects).

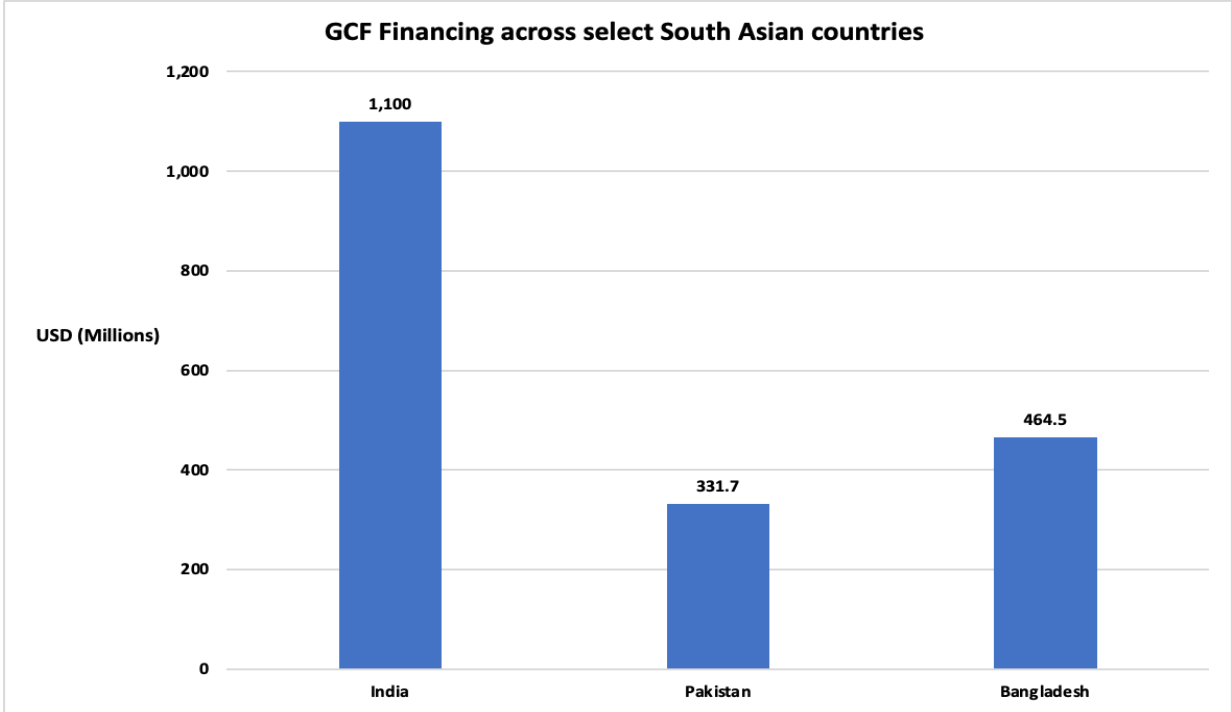


Figure 1 Volume of GCF Financing accessed by select South Asian countries

Multilateral Development Banks have remained a strong avenue for climate finance and are expected to sustain this momentum. They have provided about USD 6.4 billion for climate-related investments over the 2015–2020 period in Pakistan (World Bank, 2022). Other forms of international support such as bilateral climate funds and partnerships, notably, the Climate Investment Fund for Pakistan (CIFPAK), spearheaded by the UK Foreign, Commonwealth and Development Office and International Finance Corporation (IFC), aims to mobilize private climate finance for green growth and climate resilience. CIFPAK aims to crowd in private climate finance using a blended finance approach (public/private, concessional/non-concessional), supported by targeted technical assistance. The program’s budget is USD 146 million over seven years (2024–2031).

Domestic Climate Finance

National institutions and entities such as banks and private equity ventures have also demonstrated critical progress, with the SBP introducing the Renewable Energy Scheme in 2016 to promote renewable energy projects. By 2024, The facility had disbursed PKR 94.7 billion, supporting more than 4,500 renewable energy installations and generating 2,061 MW of power (Qasim & Abdullah, 2025). Another example is Bank Al-Habib's Kissan Revolving Credit Scheme to enable sustainable agriculture financing and flexible support to farmers for crop production needs. The scheme ensures timely provision of crop inputs like seeds and fertilizers and farmers can utilize funds for up to three years with one time documentation. The country has also taken a pivotal step in launching its first PKR 30 billion Green Sukuk with Meezan Bank as a joint financial and shariah advisor, adhering to a Shariah-compliant mechanism to generate local and international funding while avoiding interest. Proceeds aim to finance selected green infrastructure projects, including the Garuk Storage Dam in Kharan, Naigaj Dam in Dadu (Sindh), and the 26 MW Shagarthang Hydropower Project in Skardu.

3.1. Sustainable Finance Challenges in Pakistan

Despite growing momentum in Pakistan’s sustainable finance ecosystem, certain challenges remain:

- **Rigid Sectoral Restrictions**

Many climate finance instruments operate within narrowly defined sectoral or taxonomy-based boundaries, often shaped by donor priorities or rigid eligibility frameworks. While this ensures that funds are allocated to environmentally critical sectors, it creates rigidity which disregards the integrated nature of climate vulnerability, risks and impacts. Climate impacts and emissions do not occur in isolation. Energy use, waste generation, and industrial processes are closely interconnected, particularly in emission-intensive sectors such as manufacturing, healthcare, and education. However, rigid sectoral classifications often prevent financing from supporting sustainable solutions across sectors and entities.

- **Structural Financing Barriers facing Social Infrastructure**

Social infrastructure institutions - particularly hospitals, universities, and schools - represent a structurally excluded segment within Pakistan's sustainable finance ecosystem. Despite forming the backbone of community resilience and remaining highly energy-intensive, these institutions are largely overlooked by the traditional banking sector, especially when registered as Trusts or Non-Profit Organizations (NPOs). This exclusion is driven by misalignment between the requirements of traditional banking models and the legal and governance structure of such institutions. Commercial banks prefer lending to entities with a clear ownership structure and profit motives, while Trusts and NPOs do not fit this model. This leads to banks perceiving them as higher risk, regardless of stable operations and recurring revenues. Rigid collateral requirements further complicate this process as pledging institutional land or assets is often legally complex or prohibited. Another hindrance is the common perception that non-industrial sectors lack strong financial incentives or repayment capacity. Such factors lead to cautious or avoidant lending towards critical social infrastructure, limiting investment in energy efficiency and sustainable solutions.

- **Lack of Technical Capacity to Mobilize Climate Funds**

Pakistan has struggled to enhance its technical capacity to effectively access, manage and implement climate funds. The lack of institutional capacity and technical expertise results in a narrow pool of approved projects and underutilization of available concessional climate finance, despite significant climate vulnerability and investment needs. In this regard, there is a need to enhance capacity, while exploring a diverse range of financing sources to work towards bridging the climate finance gap.

- **Limit Private Sector Mobilization**

Achieving national climate commitments requires large-scale mobilization of domestic and private capital, which remains insufficiently leveraged under existing climate finance mechanisms and a lack of private sector participation. In Pakistan, private sector climate finance remains very limited, accounting for only 5% of total climate financing, far below levels in peer countries such as Nigeria (10%), Kenya (14%), and India (51%) (Foreign, Commonwealth & Development Office & Department for Business and Trade, 2023).

Expanding both domestic and international private investment will be essential for Pakistan to bridge its significant climate financing gap (Foreign, Commonwealth & Development Office & Department for Business and Trade, 2023). Additionally, with fiscal constraints and rising debt levels, the country cannot solely rely on public funds. Private sector engagement is critical to mobilize large-scale investment in climate resilience and low carbon development. This further plays a key role in de-risking investments and ensuring coordinated climate action.

- **Adaptation vs Mitigation Tradeoffs**

Climate finance instruments often lead to selection of either adaptation or mitigation streams as choices may include immediate climate-impact focused adaptation projects or long-term emission reduction projects. As per the Asian Infrastructure Investment Bank (AIIB), the total amount of development finance targeting climate change in Pakistan from 2019 to 2021 was USD 5.4 billion, of which 74% targeted mitigation, while only a quarter was used for adaptation activities (Ikejamba et al., 2025).

- **Debt Burden**

Traditional loans and debt instruments often impose significant repayment obligations that exacerbate fiscal pressure on already constrained public funds. This further leads to the pressure of repayment, causing financial strain on countries and entities and discouraging long-term climate planning.

- **Fiscal and Exchange Rate Risk**

A significant share of climate finance instruments is denominated in foreign currencies, exposing issuers to exchange rate volatility and currency depreciation risk. For countries with volatile currencies and economic instability, this risk can rapidly increase the cost of debt servicing, making debt repayment expensive and unfeasible.

- **Exclusion of Existing and Transition Initiatives**

Existing climate finance instruments are predominantly designed to support new projects that meet certain eligibility criteria. This often excludes initiatives that are in progress or may have been delayed and halted due to a lack of financial resources. This creates a structural financing gap in which capital is directed towards new or transition initiatives while stalled or underfunded initiatives with high potential are abandoned.

- **Monitoring, Transparency and Impact Reporting**

Inadequate monitoring, reporting and transparency frameworks remain a barrier to scaling climate finance, as inconsistent or opaque impact reporting undermines investor confidence and limits market participation. Many instruments lack alignment with internationally recognized standards, reducing their credibility and subsequent impact.

What is missing is not commitment or demand, but a strategic shift towards green financing mechanisms that mobilize domestic private capital at scale, align with global and national best practices and expand the scope of investment to cover climate vulnerable sectors, translating climate objectives into market-ready instruments aligned with institutional investor requirements. This structural disconnect underpins Pakistan's climate financing gap and paves the path for the Parwaaz Green Action Bond (PGAB).

4. Solving Pakistan's Climate Finance Challenge: Role of the Parwaaz Green Action Bond

To address financing constraints and support Pakistan's sustainable and climate resilient development, PFSL has issued the country's first PKR-denominated, rated, and secured medium term Green Bond of PKR 1 billion in March 2025. The Bond aims to finance/refinance renewable energy projects, sustainable agriculture initiatives, and clean transport initiatives. With a focus on Punjab and Sindh, the PGAB aims to promote a greener future for SMEs, while fostering economic growth. It further aims to expand its scope to critical social infrastructure such as health and education to enable socio-economic development.

With PFSL as the issuer, Karandaaz as the lead advisor, PET Pvt. Ltd. a Green Bond Framework SPO, Mohsin Tayebaly & Co. as the legal partner and Pak Oman Investment Company Limited as the investment agent, the bond is structured through a robust governance and operational framework. The PGAB structure has been further supported by specialist expertise from the UK government's MOBILIST program. PFSL has played a pivotal role designing the bond to align with national and international regulatory architecture, Pakistan's economic landscape, and investor ambitions. PFSL successfully secured investments from nine financial institutions and partners and attained the support of regulatory bodies such as the SECP and the PACRA.

- **Mobilization of Domestic Private Capital at Scale**

A significant constraint in Pakistan's climate finance ecosystem is the limited participation of private domestic capital, which currently accounts for only 5% of the total climate financing, far below peer economies (Foreign, Commonwealth & Development Office & Department for Business and Trade, 2024). PGAB directly responds to this gap by mobilizing PKR-denominated institutional capital through a rated and secured bond structure. PGAB includes investment commitments from leading financial institutions and partners, including Bank Alfalah, Bank of Khyber, and Allied Bank. By doing so, the bond shifts climate financing away from exclusive reliance on sovereign borrowing and international climate finance, enabling the private sector to play a pivotal role towards climate action and reflecting strong investor confidence in Pakistan's green finance sector.

This approach aligns with Pakistan's fiscal realities as constrained public resources and rising debt levels limit the scope for large-scale public climate spending. PGAB achieves this without adding to government debt, demonstrating a scalable pathway for private sector led climate financing, strategically connecting capital markets to sustainable development and climate action in Pakistan.

- **Sustainable and Environmentally Conscious Economic Growth for SMEs in Pakistan**

PGAB targets SMEs across Punjab and Sindh, a critical, yet underserved segment in the country's green transition. Despite being central to energy consumption, industrial emissions, and

employment generation, SMEs remain largely excluded from formal climate finance due to collateral constraints, perceived credit risk, and rigid requirements.

The PGAB is designed to leverage this issue and channel bond proceeds into strategic avenues such as renewable energy, energy efficiency, clean transportation, and related green initiatives for SMEs, a component that existing initiatives largely bypass. The bond deployment across high-energy intensity sectors such as textile and steel manufacturing further demonstrates how SME-focused climate finance can deliver immediate economic and environmental benefits while sustaining economic growth and strengthening industrial competitiveness.

- **Bridging the Financing Gap to Drive Sustainable and Green Social Infrastructure**

Through its Future Fund Allocation Strategy, the PGAB expands its scope to include critical social entities such as health and educational institutes that are listed as Trusts or NPOs, leading to exclusion from the traditional financing landscape. The PGAB addresses structural barriers faced by Trusts and NPOs by moving away from conventional credit and collateral models towards an asset-based financing approach. Financing is secured directly against the renewable energy assets and solar equipment installed, treating them as primary security. This allows hospitals, schools and other registered NPOs to access green financing without pledging institutional land or fixed assets which is often legally complex. Furthermore, monthly repayment installments are structured to remain below the institution's previous electricity bill, enabling instant savings from the first billing cycle. These savings improve financial stability and allow institutions to redirect resources towards core services such as education access and social programs.

Experience through the mobilization of the PGAB has also demonstrated that social institutions are capable of meeting regulatory, documentation, and reporting requirements when financing structures are aligned with their operational mechanisms. Clear financial incentives, combined with long-term energy cost reductions, have enabled effective compliance and sustained repayment performance, directly challenging traditional assumptions around the bankability of social infrastructure and unlocking sustainable transformation. Hence, the PGAB takes a multi-faceted approach to address the country's development. By focusing on high-energy industrial units and critical social infrastructure, it balances environmental impact, financial sustainability, and social development, ensuring both climate and socioeconomic benefits.

- **Flexible and Multi-Sectoral Deployment of Climate Finance**

Unlike many climate finance instruments that restrict funding exclusively to new projects or defined sectors, the PGAB adopts a flexible, multi-sectoral deployment strategy. Up to 40% of bond proceeds may be used to refinance existing eligible green projects, including those in high energy-intensity industries such as textile and steel manufacturing, where energy costs account for a substantial share of operational expenditure (PFSL). This refinancing capability directly addresses a critical gap in Pakistan's climate finance ecosystem: stalled or partially implemented projects that demonstrate strong climate impact potential but face liquidity and fiscal constraints. By unlocking capital tied up in existing portfolios, the PGAB accelerates near-term environmental outcomes while enabling the redeployment of funds toward new climate initiatives.

In parallel, the PGAB prioritizes investment across a diversified set of strategic sectors, including renewable energy, energy efficiency, clean transportation, sustainable water and wastewater management, and pollution prevention and control. Additionally, the scope expands to critical social sectors, such as health and education. This multi-sectoral approach reflects the cross-cutting nature of climate risk and avoids the rigidity of sector-constrained financing models, allowing capital to flow to climate-vulnerable areas where mitigation and resilience gains are most immediate.

- **Reduced Currency and Fiscal Risks through Local Currency Financing**

Pakistan's climate finance ecosystem is reliant on foreign-currency funding, exposing borrowers and issuers to exchange rate volatility and sharp increases in debt servicing costs during periods of economic stress. This has significantly undermined the financial viability of otherwise climate-positive investments. As the country's first PKR-denominated bond, the PGAB mitigates this risk by aligning the financing currency with borrower revenues. This structure enhances project bankability, improves repayment sustainability, and makes climate investment commercially viable. In doing so, the bond directly addresses one of the most pertinent barriers to scaling climate finance in Pakistan.

- **Strengthened Credibility and Impact Monitoring through Governance and Transparency**

Weak monitoring, inconsistent impact reporting, and limited alignment with national and international standards constrain investor confidence in Pakistan's green finance market. The PGAB addresses this challenge through a robust governance framework and operational mechanism. Rated AA- by PACRA, the Bond denotes a high credit quality and a low expectation of credit risk. This indicates a significantly strong capacity for timely payment of financial commitments, providing confidence to investors. Further alignment with ICMA's Green Bond Principles establishes the robustness of the framework through clear standards on transparency, accountability, and integrity in issuance and reporting (Annex 1).

The framework has set stringent guidelines to ensure the PGAB proceeds are utilized in ways consistent with delivering low carbon outcomes, providing investors clear and concise information about the use of proceeds from this issuance, project evaluation, management and reporting processes to ensure impact monitoring. The Green Bond Committee holds the responsibility and accountability, including compliance of Green Bond Framework and its conformity with Green Bond Principles, throughout the life of the issued bond. Moreover, PFSL ensures public reporting by disclosure of selected projects. This is in alignment with the Green Bond Principles and a range of impact indicators such as green asset allocation, sector exposure, and geographic distribution of portfolio. This differentiates PGAB from other instruments, as the governance and operational structure ensures credibility, enhances impact driven monitoring and reporting, and ensures that the bond appeals to investors.

- **Translating Ambition into Action and Development**

The PGAB provides a critical link between Pakistan's climate ambitions, its financial capacity, and stakeholder mobilization. While frameworks like NDC 3.0, National Climate Finance Strategy

2024 and Pakistan’s Climate Change Policy 2021 define national priorities, the PGAB provides a market-based, credible mechanism to translate these policies into bankable, revenue-generating investments that drive the country’s economic growth. The PGAB addresses the structural gaps in the country’s climate finance landscape as it shifts from donor- and sovereign-led climate finance towards a scalable, domestically anchored model, capable of supporting the country’s low carbon transition under conditions of fiscal constraints and climate urgency. By directing capital into renewable energy and clean transportation, the PGAB is not only financing infrastructure but also laying the foundation for Pakistan’s green transition.

The PGAB further directly contributes to Pakistan’s emission reduction targets, aligning with critical policies and targets by mobilizing sustainable solutions. Pakistan’s National Energy Efficiency and Conservation Policy 2023, targets emissions reduction of 35 MtCO₂e by 2030 through improved industrial processes, deployment of efficient appliances, and strengthened demand-side management (NEECA, 2023). Additionally, through the NDC 3.0, Pakistan aims to voluntarily reduce its GHG emissions up to 50% by 2035 (Government of Pakistan, 2025). Pakistan has set indicative 2035 voluntary emission reduction targets against projected emissions of 2,559 MtCO₂e, aiming to lower emissions to 1,280 MtCO₂e, as demonstrated in Figure 2.

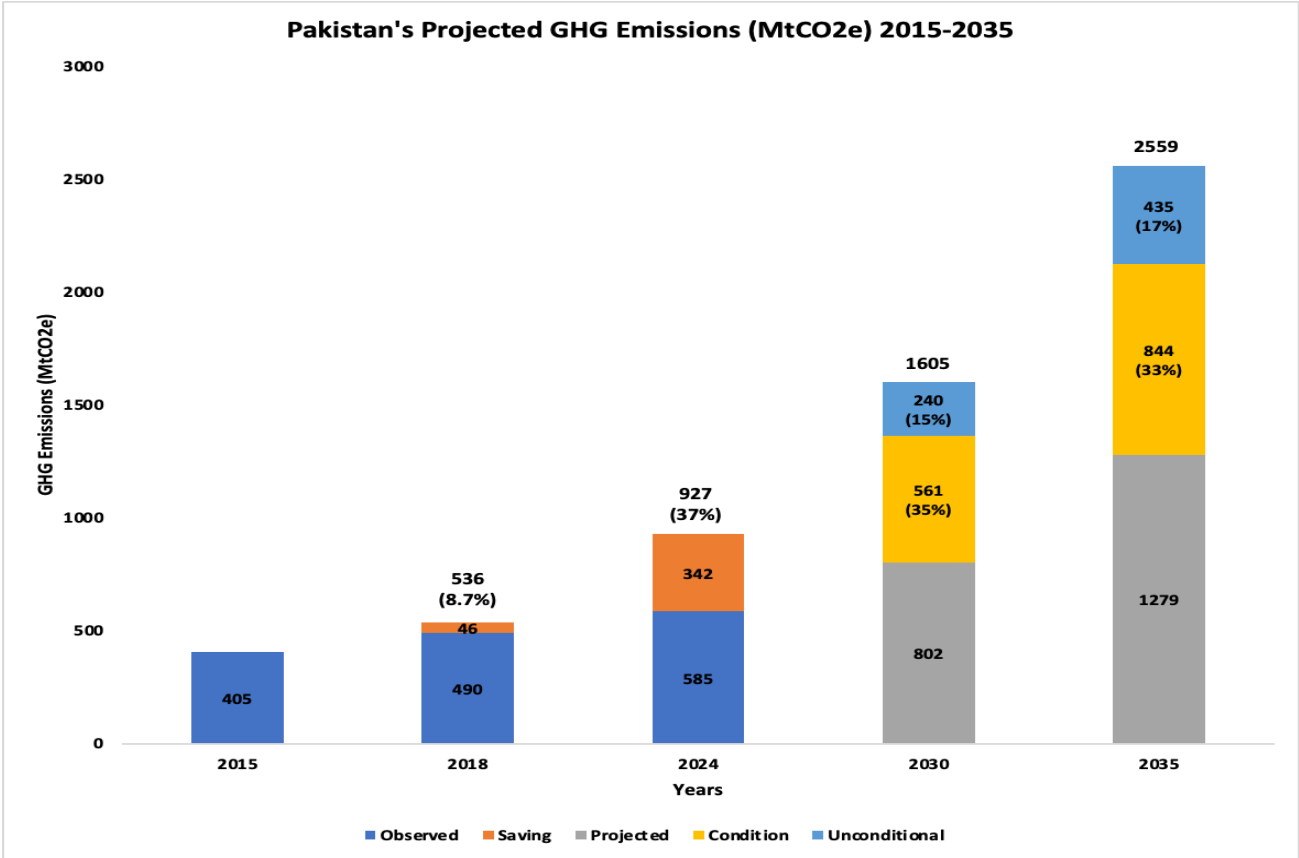


Figure 2 Pakistan’s Projected GHG Emissions (MtCO₂e) 2015-2035

Of this, 17% is to be achieved unconditionally through domestic resources and policy measures. The PGAB is pivotal in this endeavor as it contributes to this commitment and mobilizes local financing to contribute to GHG emission reductions, fostering a sustainable future.

5. Parwaaz Green Action Bond: Instrument Design, Structure and Governance

The Parwaaz Green Bond is structured as a floating-rate Term Finance Certificate (TFC) with a total issue size of PKR 1 billion and a tenor of three years. Initially, the bond was privately placed and sold directly to institutional or accredited investors such as banks but was listed on the Pakistan Stock Exchange in September 2025, in accordance with the PSX's privately placed debt securities regulations.

5.1 Green Bond Framework and Regulatory Alignment

The Parwaaz Green Bond framework governs the issuance, management, and reporting of the Green Bond proceeds. It is aligned with SECP's Green Bond Guidelines and ICMA Green Bond Principles. The framework aims to ensure that Green Bond proceeds are deployed exclusively toward environmentally sustainable activities and provide investors with clear disclosure regarding the use of proceeds. PFSL's Green Bond Framework has also been externally reviewed by the Pakistan Environment Trust (Annex 1).

Key Structural Features (Term Sheet Summary)

The principal structural features of the Green Bond, as outlined in the Term Sheet, are summarized below:

- **Issuer:** Parwaaz Financial Services Limited (PFSL)
- **Instrument Type:** Floating-rate Green Bonds / Term Finance Certificates
- **Issue Size:** PKR 1,000,000,000
- **Tenor:** 3 years
- **Minimum Subscription:** PKR 50 million
- **Maturity date:** 3 years from issue date
- **Profit Payment Frequency:** Quarterly, in arrears and payable within 5 days of due date
- **Principal Repayment:** Amortized through four quarterly installments during the final year

Use of Proceeds

The proceeds of the PFSL Green Bond are exclusively allocated to financing or refinancing eligible green projects, in line with the PFSL Green Bond Framework, ICMA Green Bond Principles and SECP's Green bond guidelines. The current deployment of Green Bond proceeds is focused on solar power projects for renewable energy and energy efficiency in priority social sectors, specifically healthcare, education, and private consumers. This near-term focus is designed to deliver immediate and measurable climate and social impact through distributed solar solutions. Over the longer term, PFSL's Green Bond strategy extends to a broader range of green investments, including energy efficiency projects across sectors such as textiles, services, hospitality, and agriculture. The long-term pipeline also includes clean transportation, sustainable water and wastewater solutions, green buildings, and pollution prevention initiatives, reflecting PFSL's evolving green finance strategy.

5.2 Amounts Raised and Investor Profiles

PFSL successfully raised PKR 1 billion currently deployed across an active green portfolio. The bond is structured around a revolving deployment model to ensure sustained climate impact over its tenor. PFSL has identified an immediate refinancing pipeline of PKR 315 million comprising high-readiness renewable energy projects that have already been developed and are pending refinancing through subsequent bond proceeds. This approach enables capital from operational projects to be recycled efficiently into new green investments. In parallel, PFSL has articulated a forward-looking future reallocation strategy of PKR 500 million, aimed at diversifying green financing beyond industrial energy use toward socially critical sectors such as healthcare, education, and consumer-level solar solutions. Together, this structured pipeline ensures continuous deployment, impact generation, and strategic diversification of Green Bond proceeds.

The Parwaaz Green Bond primarily targets private institutional investors, mainly banks which focus on impact-oriented, climate-positive investments. For example, Bank Alfalah which already has a significant green financing portfolio designed to help individuals, SMEs, commercial, and agribusinesses invest in sustainable solar energy solutions, has pledged PKR 100 million. Similarly, a substantial investment of PKR 200 million by the Bank of Khyber represents its commitment to climate-focused capital flows by investing in green finance instruments. The profiles of PGAB's investors are listed below:

Investor Name	Investment (PKR million)
Bank of Khyber	200
Allied Bank Limited	150
Bank Alfalah	100
Saudi Pak - Industrial and Agricultural Investment Company	100
Pak Oman Investment Company	100
Pak China Investment Company	100
Pak Brunei Investment Company	100
Pak Libya Holding Company	100
Alfalah Insurance	50

Table 1 Current investor portfolio of Parwaan Green Action Bond

The investment structure is designed to channel funds toward SMEs, a segment traditionally underserved by conventional financing mechanisms. The bond supports projects in the provinces of Punjab and Sindh, which are prioritized due to their high concentration of SME industrial activity and significant grid instability.

As of 2025, the bond has enabled financing for 20 SME customers primarily in energy-intensive industries such as textile and steel manufacturing. Furthermore, it has facilitated the installation of approximately 21 MW of installed renewable solar capacity. This investor-backed approach plays a critical role in helping SMEs reduce energy costs, improve operational competitiveness, and achieve measurable reductions in greenhouse gas emissions.

5.3 Process for Project Evaluation and Selection

Green Bond Committee

The eligibility, evaluation, and selection of projects financed under the Parwaaz Green Bond are overseen by a dedicated Green Bond Committee. The Committee ensures that all eligible projects conform with PFSL’s Environmental and Social Governance (ESG) Policy, Green Bond Framework, and overall sustainability and business strategy.

The Committee is responsible for overseeing project selection, bond issuance, allocation and divestment of funds (where a project no longer meets eligibility criteria), and review of environmental impact reports. It meets at least once every six months, with decisions taken on a majority voting basis. The committee comprises the Chief Financial Officer, Chief Risk Officer, Head of Business, and a Climate Finance Expert.

Project Screening and Supervision

All projects financed through Parwaaz Green Bond proceeds are subject to rigorous screening and due diligence conducted by PFSL’s Business Department, ensuring compliance with PFSL’s ESG Policy and applicable regulatory requirements.

In addition to sectoral eligibility, projects are screened against key ESG criteria, including environmental and social risk management, labor and working conditions, resource efficiency, pollution prevention, community health and safety, land acquisition, biodiversity protection, indigenous peoples, and cultural heritage considerations. Projects involving fossil fuel extraction, production, distribution, or other carbon-intensive activities are explicitly excluded from Green Bond financing.

PFSL monitors the green bond portfolio on an ongoing basis through regular performance reports and supervision throughout the life of the financing. The portfolio is also subject to independent assessment by PFSL's sponsor or designated third-party experts, where applicable.

Management of Proceeds

All Green Bond proceeds are maintained in a segregated account and managed in accordance with PFSL's Treasury Policy until disbursed to eligible green projects. Pending allocation, unutilized proceeds may be temporarily invested in profit-bearing accounts with AA-rated financial institutions or in Government of Pakistan securities, as approved by the Green Bond Committee.

PFSL tracks and reconciles the allocation of proceeds to ensure continuous alignment between outstanding bond balances and eligible green assets. Post-issuance assurance will be obtained from an external auditor or third party to verify internal tracking and allocation, in line with SECP Green Bond Guidelines.

Reporting and Impact Disclosure

PFSL commits to transparent and periodic reporting on the allocation and impact of Green Bond proceeds on an annual basis. Public disclosures will include the list of funded or eligible projects, amounts disbursed, sectoral and geographic exposure, unutilized proceeds, and any divestments or substitutions. Environmental impact reporting will cover indicators such as greenhouse gas emission reductions and energy efficiency improvements, based on ex-ante estimates and updated through ex-post reporting once projects are operational. Where applicable, internationally recognized methodologies will be applied, with customized approaches developed for innovative projects in consultation with external advisors.

5.4 Institutional Support and Structural Development

The design and structure of the PGAB is the result of a pivotal collaboration across the global and national climate finance and institutional landscape. MOBILIST's strategic Technical Assistance (TA) has been instrumental in overcoming key market constraints associated with Pakistan's nascent green finance ecosystem. The support addressed four core barriers that successfully enhanced issuance credibility, design and execution:

- **External Validation and Market Credibility:** Independent verification and validation of the Green Bond Framework was essential to align with international standards, build investor confidence and attract institutional capital. The TA enabled PFSL to engage a

reputable external reviewer, PET Pvt. Ltd., to assess the framework, conduct periodic evaluations, and ensure continued alignment with the ICMA's GBP, sustaining investor confidence.

- **Investor Awareness and Demand Creation:** Green bonds remain relatively new in Pakistan's capital markets and there is limited institutional familiarity. To ensure awareness and engagement, the TA supported investor engagement initiatives, including roadshows, targeted communication material, awareness campaigns. This helped to build an understanding of the instrument's risk-return profile and environmental integrity.
- **Regulatory and Compliance Complexity:** Issuing a green bond in a developing market requires navigating evolving disclosure, governance, and regulatory requirements. MOBILIST's TA ensured access to specialized legal and regulatory advisory services, reducing execution risk and facilitating a smooth and compliant issuance process. Mohsin Tayebaly & Co. was engaged as legal counsel to draft bond documentations, and to manage regulatory filings and approvals with the SECP and PSX. This ensured that PFSL navigated the complex regulatory environment smoothly and achieved a compliant listing.
- **Limited Domestic Green Finance Expertise:** Pakistan has a limited pool of professionals experienced in structuring and executing green bond transactions. To address this, the TA strengthened PFSL's internal capabilities in green project evaluation, impact monitoring, and reporting, ensuring robust governance and transparency aligned with international best practice including ICMA's GBP.

6. From Framework to Impact: Mobilizing PGAB for Sustainable Development

Case Study 1: Sadiq Textile Mill – Solar Energy Integration (1 MWp)

The Sadiq Textile Mill project represents a typical application of Parwaaz Green Bond's proceeds in energy-intensive manufacturing. PFSL fully financed a 1 MWp rooftop solar power system, enabling the textile mill to transition toward cleaner and more stable energy sourcing in an environment characterized by volatile electricity tariffs and unreliable grid supply. The project demonstrates PFSL's innovative green financing model, where lending is secured against the renewable energy asset itself rather than traditional fixed collateral, thereby improving access to sustainable finance for SMEs. Operationally, the system generates approximately 1.5 million kWh of clean electricity annually, reducing dependence on grid power and diesel-based backup generation. The project is estimated to offset CO₂ emissions per year, equivalent to planting nearly 70,000 trees, while enhancing the mill's cost competitiveness with an estimated financial impact of PKR 156 million in energy cost savings and long-term operational resilience. The project has also created employment opportunities for 77 people.

Case Study 2: Bashir Sons Steel Casting – Renewable Energy for Heavy Industry (1 MWp PFSL-Financed Share)

The Bashir Sons Steel Casting project illustrates the scalability of PFSL’s Green Bond financing model within heavy industrial operations. PFSL financed 1 MWp of a larger 5 MWp solar installation at the facility, supporting a sector traditionally perceived as difficult to decarbonize due to continuous high-power requirements. This investment serves as a benchmark for integrating renewable energy into steel manufacturing without compromising productivity. The PFSL-financed portion of the system generates approximately 1.5 million kWh of clean energy annually, employs 57 people and contributes to significant reductions in energy costs, with an estimated financial impact of PKR 150 million. From an environmental perspective, the project offsets emissions comparable to the carbon sequestration of 98,000 trees. Importantly, the project highlights future potential for large-scale replication across Pakistan’s industrial base, positioning green bonds as an effective instrument for enabling low-carbon transitions in high-emission sectors.

7. PGAB at a Glance: Sectoral Allocation and Impact

Building on the initial success of the bond, the next phase of fund deployment is structured to enhance portfolio diversification while extending impact across critical social infrastructure sectors. PFSL has articulated a forward-looking deployment plan of PKR 500 million, aimed at diversifying green financing towards socially critical sectors.

This future sectoral allocation strategy includes the following sectors:

- **Healthcare:**
Investments focused on hospitals and clinics to lower energy-related operational costs and improve long-term financial sustainability.
- **Education:**
Targeted funding for universities and schools to mitigate operating expenses and support tuition stabilization through energy efficiency gains.
- **Individual Consumers:**
Capital deployment aimed at accelerating residential solar adoption, enabling household energy savings and greater energy independence.

As illustrated in the figure below, PFSL intends to allocate equal weight and priority across these sectors without specifying predefined fixed investment amounts for each.

Future funds allocation strategy

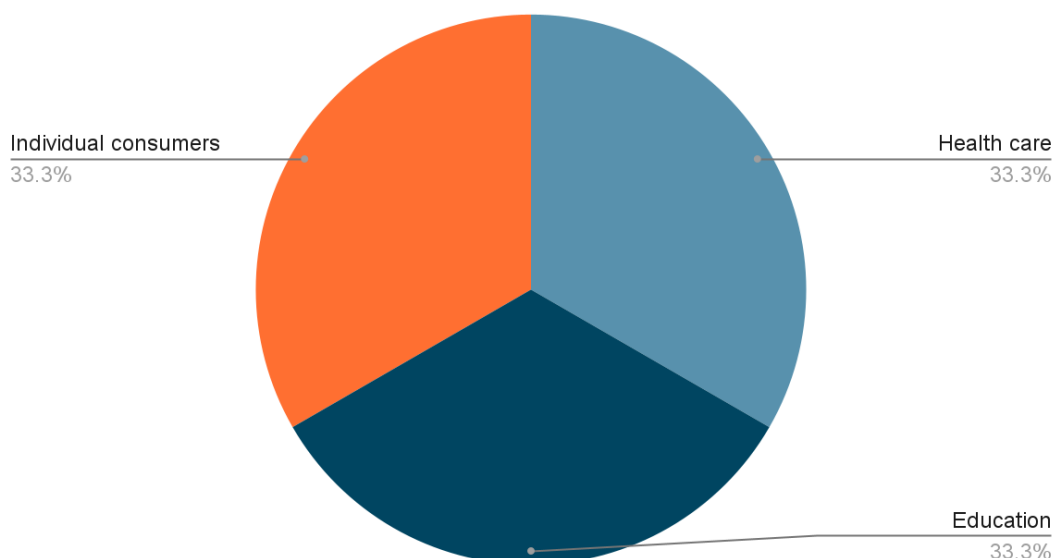


Figure 3 Future reallocation strategy of bond proceeds

8. The PGAB Experience: Market Implications and Lessons Learned

The successful issuance and deployment of the PGAB provides several important lessons for scaling climate finance and green bond issuances in Pakistan and emerging markets. By capturing investor confidence, this bond has successfully set a precedent for future sustainable investments in Pakistan and provides key insights that are relevant for a wide range of stakeholders, including issuers, regulators, investors and intermediaries seeking to develop and leverage climate finance instruments to ensure a transition towards a low-carbon economy. The table below identifies the key market implications and lessons learned:

<p>Innovative Collateral Structures</p>	<p>A central success factor is the use of asset-backed financing, where provisions such as solar equipment funded by the bond issuance serves as primary collateral itself, ensuring self-security. This structure removes the requirement of traditional collaterals such as property mortgages or cash deposits under lien, a key challenge hindering SMEs from accessing climate finance. This further enables critical social institutions such as health and education organizations, often registered as Trusts or NPOs, to access green finance without facing structural hindrances prevalent in the traditional banking sector.</p>
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<p>Improved Cash Flow Design</p>	<p>The financing structure is designed to ensure that monthly debt service obligations are lower than the borrower’s pre-financing costs (e.g. monthly electricity bills), resulting in an immediate positive cash flow for SMEs, strengthening repayment capacity from the initiation of operations. This feature fundamentally differentiates PGAB funded initiatives from conventional projects, where cash flow stress may arise during early project years.</p>
<p>Long-Term Asset Benefits and Rapid Payback</p>	<p>The facility typically has a payback period of under 3-4 years, while the asset lifespan (e.g. solar equipment) exceeds 25 years, ensuring that borrowers benefit from long-term cost certainty and sustained savings well beyond loan maturity. This provides the client with over two decades of essentially free electricity after the loan is serviced.</p>
<p>Embedded Risk Mitigation and Enhanced Investor Confidence</p>	<p>PGAB’s framework integrated multiple layers of risk mitigation which include:</p> <ul style="list-style-type: none"> o Equity Stake: Borrowers maintain a minimum 25% equity stake, ensuring high commitment. o Comprehensive Insurance Coverage: Assets are insured by an A-rated insurance company. o Low Default Risk Profile: As the asset directly reduces essential operating costs, the default risk is significantly lower than general purpose lending. <p>Together, these measures contribute to a strengthened risk profile, boosting investor confidence</p>
<p>Investor Confidence and Appetite</p>	<p>The PGAB successfully secured the support and investment of nine financial institutions, demonstrating the will of the private sector to engage and accelerate Pakistan’s sustainable development. It is key to highlight the key features of the Bond that enable this endeavor, spanning from a robust governance framework, an impact-driven monitoring approach, PKR denomination to mitigate currency risk and asset-backed financing, among other factors which enhance financial viability and appeal to impact-oriented institutional investors and stakeholders.</p>
<p>Alignment with National and International Regulatory Frameworks</p>	<p>The success of the PGAB as the first PKR-denominated green bond to be listed on the PSX underscores the importance of alignment with national and international best practices and regulatory frameworks. PGAB adheres to the SECP Green Bond Guidelines and the ICMA Green Bond Principles and underwent a successful review by Pakistan Environment Trust (PET) Pvt. Ltd (Annex 1). Rated AA- by PACRA, the bond appeals to investors due to its credibility, highlighting the importance of independent ratings and reviews in building investor trust. The bond’s framework captured investor confidence through a transparent and</p>

	compliant structure, providing a model for replication in Pakistan and emerging markets.
Transparent Governance and Impact Reporting	A key lesson from the PGAB is that robust and transparent governance coupled with impact reporting is essential to secure investor confidence. PGAB demonstrates the importance of linking use of proceeds to measurable, verifiable outcomes, such as installed renewable capacity, SME revenue generation and job creation. The bond moves beyond ambition to action, providing investors with tangible outputs and impacts. The Bond's framework set guidelines to ensure that proceeds are utilized in ways consistent with delivering low carbon outcomes and investors are provided with clear and concise information about the use of proceeds from this issuance, project evaluation, management and reporting processes, aligning with the Green Bond Principles.
Improved Regulatory Readiness	The PGAB process highlighted that the regulatory and compliance constraints associated with SMEs are often overstated. To ensure effective financial incentives, SMEs demonstrated the capacity to understand and align with the bond's framework and obligations, ensuring adequate reporting, monitoring and document provision, demonstrating the potential for continued action.

Table 2 Market Implications and Lessons Learned

Collectively, the key learnings and success factors provide lessons to demonstrate how green bonds can move beyond pilot transactions and donor-supported structures to scalable and credible market-based instruments. The PGAB experience demonstrates that when climate finance instruments are supported by robust governance and transparency mechanisms while aligning with national and international regulatory frameworks and best practices, it can mobilize private capital at scale to promote sustainable development.

8.1. Catalytic Market Development and Value Creation in Partnership with MOBILIST

MOBILIST's TA contributed to strengthening the bond's structural integrity and execution, while further generating public value for Pakistan's capital markets. It demonstrates the commercial viability of green bonds in the country, expands domestic green finance expertise, and catalyzes investor participation in sustainable investments, thereby supporting the long-term development of Pakistan's sustainable finance market. MOBILIST's TA has been pivotal in:

- **Demonstrating the Viability of PGAB:** Supporting Pakistan's first private sector green bond issuance establishes a credible market precedent. The PGAB's listing on the PSX, backed by a robust Green Bond Framework and independent external review, provides a replicable blueprint for other entities. By demonstrating that a labelled green instrument

can be structured, verified, rated, and successfully listed within Pakistan's regulatory framework, the transaction reduces perceived execution and credibility risk for future issuers.

- **Developing Green Finance Expertise:** Capacity building within PFSL expands the domestic knowledge base in green bond structuring, project evaluation, impact measurement, and reporting aligned with the ICMA's GBP. The frameworks, methodologies, governance processes, and training materials developed through this transaction can be adopted by other market participants. This raises the baseline competency of Pakistan's financial sector in sustainable finance rather than confining expertise to a single institution.
- **Promoting Green Investments:** A successful issuance enhances investor confidence in climate-aligned instruments and broadens institutional participation. The PGAB channels capital toward renewable energy and energy efficiency projects across agriculture, manufacturing, healthcare, and education. By mobilising private capital into critical sectors through a listed and rated instrument, the bond demonstrates a commercially viable and scalable channel for climate finance that institutional investors can engage with at scale.

9. Scaling Climate Finance: PGAB as a Model for Pakistan and Beyond

The PGAB marks a watershed moment in Pakistan's climate finance landscape by successfully mobilizing domestic and private capital markets to finance climate action at enterprise level, targeting critical, yet emission intensive growth by focusing on targeted investments in renewable energy, sustainable agriculture, and clean transportation. The PGAB forms a part of Pakistan's broader effort to mobilize climate finance and build a sustainable investment ecosystem. It provides a credible market-based instrument aiming to catalyze sustainable growth, climate resilience and a greener future for Pakistan.

With pivotal guidance and appraisal from regulatory bodies like SECP and PSX, along with PET Pvt. Ltd. And PACRA, this endeavor led by PFSL offers a clear pathway for replicating enterprise focused climate finance solutions in Pakistan and emerging markets.

- **Private and Domestic Capital Mobilization** for climate action through a PKR-denominated, rated, and listed bond, reducing dependence on foreign currency and sovereign financing
- **Enterprise Level Climate Action** by directly financing SMEs, and addressing a major gap in the national climate finance landscape by enabling decarbonization in emission-intensive, yet crucial sectors such as textile and steel
- **Empowering and Supporting Social Organizations** through its Future Fund Allocation Strategy which expands the scope to sectors such as health and

education, ensuring socio-economic development by investing in sustainable solutions for decarbonization

- **Scalable and Replicable Structure** as the bond's framework standardized and aligns with key frameworks and regulations such as SECP's Green Bond Guidelines and ICMA's Green Bond Principles
- **Alignment with Policy and Development Commitments** as the PGAB translates national climate commitments into commercially viable investments by aligning climate and policy objectives with economic growth
- **Risk Mitigation through local Currency and Asset-Backed Financing** as the PKR-denominated, asset-backed financing aligns with borrower cash flows and mitigates currency risks, enhancing confidence for both issuers and investors
- **Multi-Sectoral Focus and Refinancing** as the PGAB enables financing and re-financing of green projects across multiple climate-vulnerable sectors and targets key investments in renewable energy, sustainable agriculture, and clean transportation, this initiative aims to promote a greener future for SMEs while fostering economic growth
- **Strong Governance and Credibility** as the PGAB is compliant with SECP guidelines, ICMA principles, and has undergone independent verification, ensuring transparency and monitoring

PGAB is dedicated towards making a meaningful difference, connecting policy commitments to measurable actions by supporting projects that address pressing environmental challenges and pave the way for a sustainable and prosperous future. Collectively, these elements position the PGAB as a replicable and scalable model for mobilizing domestic capital, strengthening institutional and private sector participation, and embedding climate ambition.



Annexures



Annex 1 [Second Party Opinion \(SPO\) on PFSL Green Bond Framework by PET Nature \(Private\) Limited](#)

- SPO Summary

SPO Section	Summary	Evaluation
Alignment with ICMA GBP	The PFSL Green Bond Framework is deemed to be a credible and robust initiative for mobilizing capital towards sustainable projects, with a strong emphasis on transparency, accountability, and environmental integrity. Consequently, PET affirms that PFSL's Green Bond Framework is positioned to effectively mobilize capital for sustainable development in Pakistan while adhering to international best practices.	Aligned

- Alignment with ICMA Green Bond Principles

GBP	Alignment	Opinion
1. Use of Proceeds		The PFSL Green Bond framework meets the requirements for Use of Proceeds as set aside under GBP, ensuring that funds are allocated to projects that provide environmental benefits in alignment with the sectoral criteria of GBP. The framework also clearly defines and delineates the sectors and projects for the use of proceeds. Additionally, the framework also provides a list of eligible projects that are part of the current portfolio, further strengthening the use of proceeds case.
2. Process for Project Evaluation and Selection		The evaluation process developed by PFSL is robust and well-defined and involves a two-stage screening and oversight process, ensuring the selection of projects that align with GBP. PFSL has established a Green Bond Committee to oversee the evaluation and selection of projects. This committee adheres to stringent criteria that align with PFSL's Environmental and Social Governance (ESG) policies. Exclusion criteria for fossil fuel projects further strengthen the framework.

<p>3. Management of Proceeds</p>		<p>The management strategy is sound, promoting transparency and accountability in the use of proceeds and is aligned with GBP. Proceeds will be managed through a dedicated account, with unallocated funds temporarily invested in low-risk financial instruments. The framework includes a reconciliation mechanism to ensure that proceeds are appropriately allocated to eligible projects.</p>
<p>4. Reporting</p>		<p>The reporting framework is comprehensive, ensuring complete cadence and ongoing communication with investors, in line with GBP. PFSL commits to annual reporting on the use of proceeds and environmental impacts, employing established methodologies for both ex-ante and ex-post evaluations. The reporting will include relevant impact indicators and is accessible to stakeholders.</p>

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