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SEED خوشحال خیبر پختونخوا

UKaid from the British people

KHYBER PAKHTUNKHWA GREEN FINANCING BRIEF

April 2021

Table of Contents

1. Introduction:

The purpose of this brief is to provide a broad overview of the necessary components of a green finance roadmap to SEED for accessing financing for the Khyber Pakhtunkhwa (KP) region. Main priority areas, potential interventions, as well as the financing partners and the steps for accessing them are all discussed in the below text.

For purposes of this brief, we focus on issues pertaining to air quality, vehicle emissions, industrial emission reduction, waste management, and renewable energy. These five areas have been deemed as lingering challenges within KP, both holding back development and having potential to create more prolonged challenges in the region. These challenges are indeed not unique to KP and exhaustive, thus we propose a short selection of hypothetical solutions, pulled from experiences in similar markets and environmental contexts, that KP can explore as well. We keep these examples brief so as to provide a preliminary overview of the types of solutions KP could adopt. Additionally, within each section we provide a benchmark project that has been financed in another developing country. Other important projects to KP's low-emission and climate-resilient development pathway need to be considered in due course included sustainable food systems, water management, forestation and green infrastructure.

Successfully implementing new solutions will hinge on introducing both new technology approaches and new financing partners, along with institutional and policy support to launch projects that can reverse longstanding obstacles to green growth. This document also provides a breakdown of the key steps that the KP government can follow to access funding from global finance providers.

We provide a menu of funding sources as well as the basic requirements potential partners must fulfil to obtain funding from each. Globally, there is a growing pool of large, bilateral and multilateral finance institutions with deep specialization in green finance. Each has a wide portfolio of projects (e.g. infrastructure, transport, food etc.), as well as a range of different financing instruments (e.g. project financing, equity, debt, grants) that KP can explore. Moreover, many have already financed projects the likes of which KP will need to implement, so there is likely sound historical knowledge that these institutions can bring to bear.

This brief can help guide important conversations and partnerships, and in general help the region to focus on the main priority areas and opportunities within its green growth process. It is recommended that upon completing the submission of this report and discussion of primary findings, that the team engages in a second phase of implementation, with a deeper focus on building out pathways to raise funding and implement the solutions detailed in this document.

We recommend that SEED employs three-pronged approach for green financing, which we outline in a section beginning on page 13. First, SEED will need to decide on a core green project, or group of projects, that it wants to prioritize, and implement the process that will be required to obtain green funding. Second, it should expand its ambition to develop a programmatic approach across its focused thematic areas such as low carbon energy, green

transportation and clean air. Finally, it should initiate steps to build its own internal green investment facility, which we outline in the same section.

2. Green financing:

Green financing offers fresh and exciting opportunity for Pakistan and the province of KP to transition to a sustainable low emission and resilient development pathway. This brief identifies multiple financing opportunities for SEED to access green financing for KP.

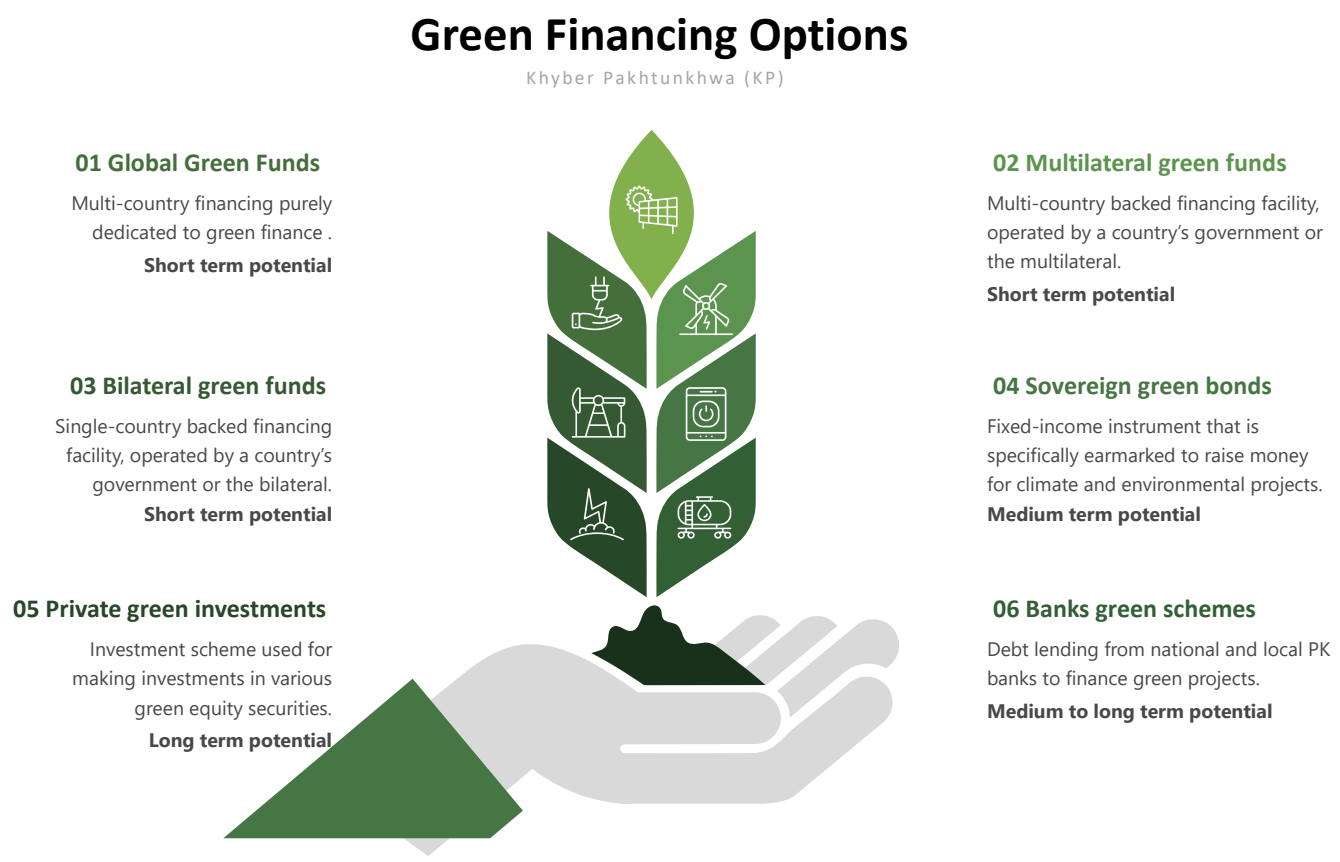
Nations have yet to agree on a single definition of green finance. Broadly, green finance refers to funding needed to meet the costs of supporting environmental and climatic challenges. Climate finance is a subset of green finance and refers primarily to public finance to combat climate change through the UN Framework Convention on Climate Change (UNFCCC) to meet the 1.5C-2C global warming target. Often green finance and climate finance are interchangeably used. The G20 Green Finance Study Group offers a compelling definition of green finance as *"financing of investments that provide environmental benefits in the broader context of environmentally sustainable development. These environmental benefits include, for example, reductions in air, water and land pollution, reductions in greenhouse gas (GHG) emissions, improved energy efficiency while utilising existing natural resources, as well as mitigation of and adaptation to climate change and their co-benefits."*

For the purpose of this brief, we use green finance as an umbrella term for reducing pollution or tackling climate change in KP. Climate change further encompasses mitigation activities to reduce GHG emissions and adaptation activities to deal with the negative impacts of climate change. Activities can be crosscutting that combine actions for mitigation, adaptation and the environment. SEED can support KP gain access green financing under a number of themes. These include but are not limited to:

- Mitigation
    - Renewable energy (solar, wind, hydro,)
    - Energy efficiency and access (cogeneration, smart grid, off grid, distribution)
    - Carbon capture and storage
    - Green transport (urban rail/metro, electric, hybrid)
    - Green buildings
    - Green products and materials
- Adaptation
    - Conservation, biosystem adaptation, reducing human vulnerability
    - Flood and drought protection
    - Agriculture and aquaculture
    - Sea-level rise
- Cross Cutting
    - Sustainable food system (research, production, distribution & consumption)
    - Sustainable land management, (sustainable agriculture, forestry, urban forestry)
    - Water (water efficiency, wastewater treatment, water harvesting).
    - Environmental protection (pollution control, prevention, and treatment)
    - Waste management (recycling, waste management, waste to energy)

The activities scope may include helping Government of KP with robust environmental planning and decision making, building capacity of agencies, overcoming implementation barriers, improving access to information and facilitating policy development for accessing financing.

The brief identifies six potential categories of green financing opportunities for KP. These are listed in terms of their access potential 1) Global green funds; 2) Multilateral green funds; 3) Bilateral green funds; 4) Sovereign green bonds; 5) Private green investments; and 6) National banking green schemes. The tables, figures and annexures in this brief detail each category, along with the potential for access for KP.



Institutional funding modalities:

Global green funds	• **Description:** Multi-country financing purely dedicated to green finance. These facilities are created through collective financial, operational and political commitments between multiple governments, with the intention of deploying various financing instruments - e.g. equity, debt, grants, guarantees, project finance, etc. - along with advice and technical assistance to improve environmental outcomes in developing countries • **Potential:** Short-term prospect worth pursuing. Global green funds are mandated to exclusively fund solutions (e.g., projects, businesses, etc.) that could be relevant for Pakistan and the KP region to explore. Some funds also offer financial support for developing project proposals.

Multilateral green funds	● **Description:** Multi-country backed financing facility, operated by a country's government and functions in order to help client countries progress towards achieving development outcomes, done so via deploying various financing instruments - e.g. equity, debt, grants, guarantees, project finance, etc. - along with advice and technical assistance to improve development outcomes in a given country. ● **Potential:** Short-term prospect worth pursuing. Many multilateral funds have various green financing schemes for developing countries globally that could be relevant for Pakistan and the KP region to explore. Some funds also offer financial support for developing project proposals.
Bilateral green funds	● **Description:** Single-country backed financing facility, operated by a country's government and functions in order to help client countries progress towards achieving development outcomes, done so via deploying various financing instruments - e.g. equity, debt, grants, guarantees, project finance, etc. - along with advice and technical assistance to improve development outcomes in a given country. ● **Potential:** Short-term prospect worth pursuing. Many bilateral funds have various green financing schemes for developing countries globally that could be relevant for Pakistan and the KP region to explore. Some funds also offer financial support for developing project proposals.
Sovereign green bonds	● **Description:** Fixed-income instrument that is specifically earmarked to raise money for climate and environmental projects, typically asset-linked and backed by the issuing entity's balance sheet, thus usually carry the same credit rating as their issuers' other debt obligations ● **Potential:** Medium-term opportunity that would be contingent on finding investors and a bankable pipeline of green projects that have attractive risk-return profiles.
Private green investments - PE/VC funds	● **Description:** Investment scheme used for making investments in various equity securities according to one of the investment strategies associated with private equity. Private equity funds are typically limited partnerships with a fixed term of 10 years ● **Potential:** Long term prospect that should be explored only when there is sufficient legal structure in place in KP region and pipeline of investment-ready projects and companies to necessitate equity funding.
National banking green schemes	● **Description:** Debt lending from national and local PK banks to finance green projects, typically used to fund major capital expenditures and/or cover operational costs. ● **Potential:** Long term prospect that should be explored only when there is a sufficient pipeline of projects that have adequate maturity and cash flow needed to qualify for a loan.

Refer to Annexure 2 for a detailed menu of green financing institutions for each of the above referred financing modality.

3. Accessing green finance:

Accessing funding entities can take a variety of approaches. While each of the above identified funding entity may have a slightly different approach, we suggest following broad guidelines to maximize partnership opportunities.

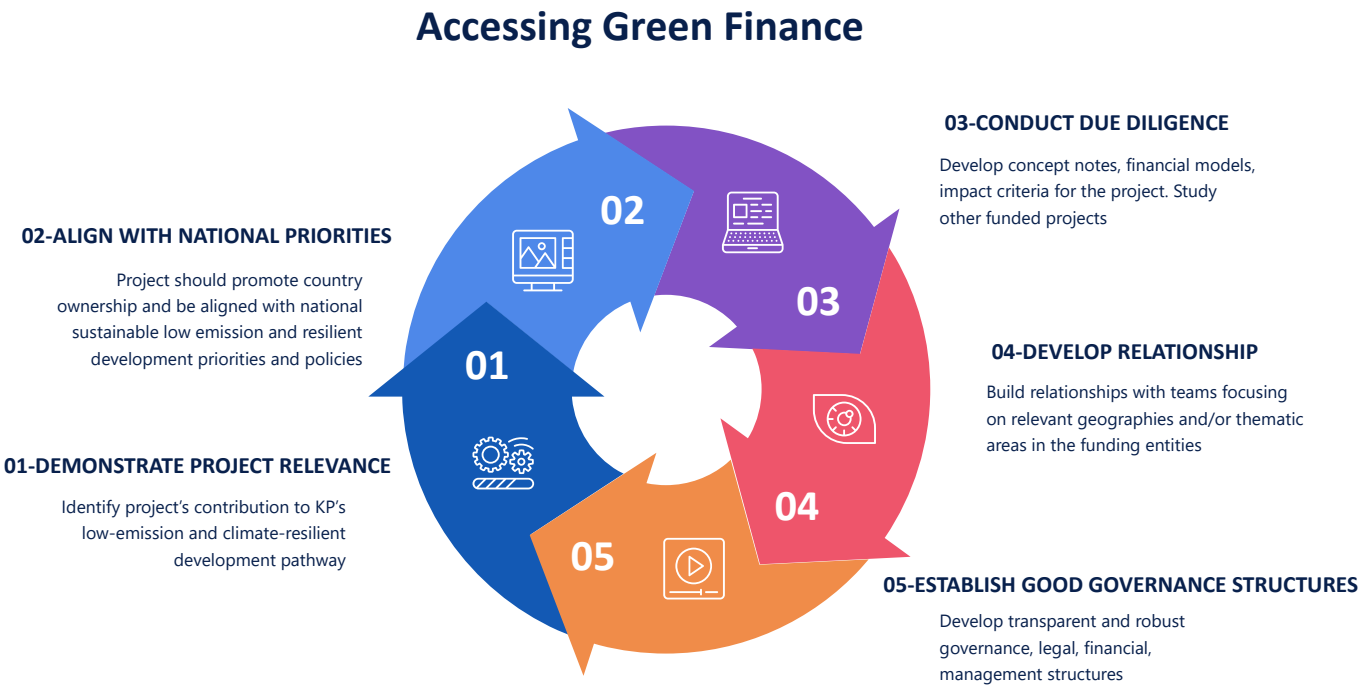
- Project relevance - Identify and demonstrate the project's contribution to KP's low-emission and climate-resilient development pathway underpinned in strong climate rational and backed by credible scientific data

- National priorities alignment - Many entities, such as climate funds, DFI's, require any project be squarely aligned with its national priorities to promote country ownership. Further the projects should be informed by the national and provincial policies.

- Due diligence documents - Concept notes, business plans, financial models, biographies of leadership, among other documentation will all eventually be needed, potentially serving as supplementary documents to any required forms and applications that the organization uses.

- Relationship development - Build relationships with teams focusing on relevant geographies and/or thematic areas in the funding organisations

- Good governance structures - Ensuring proper legal oversight and management of any projects requiring funding is essential. Globally accepted accounting standards, legal representation and other accountability measures must all be in place.



Primary intervention areas:

Green financing offers fresh and exciting opportunity for KP to transition to a sustainable low emission and resilient development pathway. A relevant example of green financing is the Punjab Green Development Project funded by the World Bank for strengthening the environmental governance in the province and promoting green investments in both private and public sectors. Based on the immediate priorities of KP discussed with the SEED team, we have identified five intervention areas. These areas are not exhaustive but offer a good starting mix of green projects relevant to meet the environmental challenges of KP.

- Air quality monitors
    - Current challenge - Air quality in Peshawar is poor, according to national and global standards. In 2016, Peshawar was found to have $PM_{2.5}$ concentrations more than 4 times the prescribed National Environmental Quality Standard levels. In 2020, Peshawar had 34 days where the AQI score registered above 200 – including 2 days above 300 (150 is considered very unhealthy).
    - Broad parameters of intervention - Air quality improvements require a multipronged strategy, including a smog control strategy, the installation of a design air quality monitoring system, and designing and upgrading the vehicle inspection regime. Additionally, green finance products can be leveraged to support in this process.
    - Relevant funding vehicle: Multilateral and bi-lateral funds – Example of project: Greater Cairo Air Pollution Management and Climate Change Project funded by the World Bank
- Vehicle emission reduction technologies
    - Current challenge - The transport sector is a key contributor to excessive air and noise pollution levels in the province. Fuel taxes are easy to administer and are most suitable as means to internalize climate change and environmental degradation costs
    - Broad parameters of intervention - There are many ways that governments can cut down on vehicle emissions. Offering buses and taxis allows more people in one vehicle instead of more vehicles on the road putting out emissions. Cities can also provide options for walking and cycling to improve air quality. Likewise, the government can place import regulations on second-hand vehicles (traditionally the most common type of vehicles in developing countries, which also have large emissions and low capacity for upgrades to cleaner models) or even banning the importation of vehicles that are above a certain age. Additionally, a carbon tax can mitigate the wider effects of pollution by dis-incentivizing excess fuel consumption. Development of provincial Electric Vehicle

policy and support for the sector through subsidies and investments can make the sector attractive. Lastly, a focus on renewable energy (discussed in more detail below) can make a general, net-positive difference in these efforts, as the local government needs to ensure that the population has access to cheap and reliable energy.

    - Relevant funding vehicle: Climate funds, as well as multilateral and bilateral funds – Example of projects: Egypt Vehicle Scrapping and Recycling Program funded by the World Bank and GEF Global E-Mobility Program funded by the Global Environmental Facility.

- Industrial emission reduction

    - Current challenge: Industrials manufacturing processes in the region - e.g. particleboard manufacturing units and steel mills - have led to chronic emissions of toxic gas emissions, which can lead to serious health hazards.

    - Broad parameters of intervention: Similar to the previous section, a carbon tax can help in reducing industrial emissions, and in general, embracing renewable energy and making sure that industry players have access to cheap and reliable energy can have a catalytic effect. Additionally, installation of monitoring technology in factories - e.g. IoT devices that can track usage of machinery and provide real-time reporting on emissions as well as guidance for adjusting machinery when exceeding peak usage.

    - Relevant funding vehicle: Climate funds – Example of project: Overcoming energy efficiency investment market barriers in Vietnam funded by the Green Climate Fund

- Waste management (e.g. agriculture, medical, and industrial waste burning)

    - Current challenge: KP currently lacks an efficient and eco-friendly means of disposing of its solid waste, and has an antiquated solid waste management (SWM) system.

    - Broad parameters of intervention: KP can execute waste to energy projects at the local level in coordination with the municipalities, as and how they deem fit. Government of KP can leverage the new policy impetus to facilitate private-sector participation in waste to energy projects, providing massive employment opportunities to the local population as well as cheap, reliable electricity to main urban centers. Supporting waste to energy projects through private sector financing will require the formulation of a transaction framework that can successfully ramp up the inclusion of certain key elements.

- Relevant funding vehicle: - Climate funds. Example of project: Promoting Organic Waste-to-Energy and other Low-carbon Technologies in Small and Medium-scale Enterprises (SMMEs): Accelerating Biogas Market Development funded by the Global Environmental Facility

- Low carbon energy (e.g. clean energy production and distribution, renewables, access):
    - Current challenge: The area faces significant constraints regarding low carbon energy generation, transmission and distribution losses and access. Perhaps complicating matters most, the KP region lacks a master plan for electrification. The absence of this strategy could explain why most of the population does not have access to reliable, affordable and clean electricity. The energy production mix also needs to be recalibrated towards low carbon energy pathway. Additionally, commercial buildings in KP are a major consumer of energy. The commercial sector alone consumes 8% of electricity in the region and a large share of this is used in buildings for cooling, ventilation, lighting, appliances etc.
    - Broad parameters of intervention: KP can enhance the renewable energy mix in its energy portfolio by developing solar, hydel and waste to energy projects. It can cut the carbon emissions in distribution and supply through adoption of low carbon distribution infrastructure. A number of renewable energy applications promoting stand-alone systems or mini grids/micro-hydels to provide access to power have proved successful with the help of donor funding (AKRSP, SSRP), but have seen a limited application of scale to date in KP. One next priority could be financing the expansion of these microgrid projects. For commercial buildings, rooftop solar installations could also help to promote clean, renewable energy usage. Lastly, we can explore working with local financial institutions to help them build instruments to allow building operators to more easily obtain funding to make upgrades to buildings' energy systems.
    - Relevant funding vehicle: Climate funds, as well as multilateral and bilateral funds – Example of projects: Scaling Smart, Solar, Energy Access Microgrids in Haiti funded by the Green Climate Fund and Afghanistan Rural Energy Market Transformation Initiative funded by the Green Climate Fund.

Other than the above intervention areas, there is opportunity to develop adaptation and cross cutting projects in KP including sustainable food system, water management, infrastructure, urban forestry, and flood and disaster management important to reduce the vulnerability of local populations.

Potential financial partners:

Green financing covers an array of instruments from loans, debt mechanisms and investments to encourage the development of green projects. The KP Green Financing Opportunities document identifies several potential categories of green financing opportunities in more detail. Select global green finance vehicles for the roadmap include:

- Green Climate Fund (GCF) – Funding potential for micro project up to US$10 million and small projects between US$10-50 million. Mix of grants, concessional loans and equity for low carbon and resilient development projects including clean energy, energy efficiency, transportation, agriculture, water management and vulnerable communities. Funding of US$1.5 million is available for project proposal development. Projects are developed through GCF accredited entities and approved by GCF board on a rolling basis. Currently there are two national accredited entities for direct access in Pakistan; National Rural Support Programme and JS Bank Ltd. Additionally, several international accredited entities are also active in Pakistan including, World Bank, Asian Development Bank, UNDP, Food and Agriculture Organisation. The application and approval may take up to two years. A shorter approval cycle is available under Simplified Approval Process for projects with a GCF contribution of up to US$10 million.

- Global Environmental Facility (GEF) – Funding potential for medium sized project up to US$2 million and large size project above US$2 million. Mix of grants and co-financing for biodiversity, climate change mitigation, land degradation, international waters and chemicals and waste projects. Several projects have been funded by GEF in Pakistan.

- Climate Investment Fund (CIF) – Funding potential for large scale projects over US$100 million. Mix of grants, concessional loans and equity are available for clean technology, climate resilience, energy access, and sustainable forests projects. Pakistan is yet to access funding from CIF and the application and approval may take up to two years.

- Multilateral and bilateral funds – Funding potential ranges from small grant projects of under US$1 million to multimillion dollar projects. Funds such as those managed by the World Bank, Asian Development Bank, FCDO, USAID and Nordic Development Fund have active funding relations in Pakistan.

Additional stakeholders to involve:

- Government – Local KP government will effectively be in charge with setting the rules of the playing field – e.g. creating and maintaining incentives for local businesses to use green infrastructure, making the inception process for new projects efficient and fair, ensuring that local and foreign investors have transparency and feel secure in investing

in KP, and even serving as a coordinating body as new players from in-country and abroad interact with the local implementors.

- Private sector – The local private sector can play a role in several ways. First, local companies can play a role in implementing green projects, either leading or serving as co-implementors with local and foreign entities. Second, they will in turn play a role in helping to source talent and maintain projects, given them a key position in determining the quality of output both in the near and long-term. Third, local financial institutions may have a role in helping to provide financing or co-financing for green projects, or even be the receivers of training from global funds and finance experts to help build local capacity to structure green finance products.

- Civil society - Civil society's main role in this process will be in helping the policy awareness and adoption process surrounding the green projects. As mentioned above, domestic consumers in KP are often unaware of the potential energy savings they can get by adopting simple measures such as replacing incandescent/C lights with LED lights and purchasing more efficient appliances viz. those with "Energy Star" rating. Other measures at homes can reduce their energy consumption bills for which a concerted awareness campaign needs to be launched, which mainly targets the high-end consumers. Spreading awareness on these measures can be one area where civil society and media collaborate.

- Media - Local media can play a role in promoting transparency and educating the KP population on its green finance strategy, including the priority areas, projects, the partners involved as well as celebrating the efforts' successes. The residual effect of these efforts will be to help the surrounding area become acclimated to the necessity of green financing and green projects. For example, there is a lack of social awareness and acceptance regarding energy efficiency and conservation and the benefits they can provide to communities. Media can play a useful role in this awareness process.

- Education/academia - The education sector could help in multiple ways. First, it can help to ensure that there is a steady stream of talent from universities into the green finance projects in KP. For example, capacity building at KP level remains essential through training and education in areas of energy audits and energy management. Institutions of higher learning may provide a good impetus to collaborate with GoKP to include courses in Energy Efficiency and Conservation to meet the expected demand for such qualified technicians in the future. In particular, the number of energy audits to be conducted at the provincial level will depend heavily on the number of trained auditors along with ancillary trainings in financial and economic analysis. Additionally, academia can help serve as a third-party research effort, monitoring and studying the green projects. Third, the sector can also help in incubating new ideas for future projects, either in the form of professors developing green R&D that can be commercialized, as well as providing physical incubation space for green startups.

Action steps – Three-pronged approach for obtaining green financing and building a domestic green finance facility:

We recommend SEED develops a three-pronged action approach for accessing green financing. This starts with developing a single project proposal, building out to a thematic programme and then moving to a local green finance facility

Project approach:

First, we recommend that SEED begin rapid relationship development, and subsequent application for project funding with green finance facilities. While the process for accessing green financing from large global finance facilities can vary, we recommend that SEED should be prepared to follow the below actions steps, or a version of it, in order to obtain funding from the entities outlined in this report for KP.

Action Steps	**Activity**	**Responsibility**	**Timeline**
Identify projects	Identify 5 projects that are aligned with green financing agendas of major green finance facilities and national priorities	SEED Team	2-4 weeks
Develop draft concepts notes	Develop 5 concept notes (2-pagers max). These should cover the green financing projects covered in the report and other projects as appropriate	SEED Team / Green Finance Expert	2-4 weeks
Meet KP and National Govt Agencies / other stakeholder consultation	Identify and align the concept notes projects with national and provincial priorities and policies. Key agencies to meet include national ministry of climate change, and KP and national ministries of planning, energy, wate and food security. Ideally meet with the secretaries and if possible, the ministers. Carry consultation with other key stakeholders identified in the brief.	SEED Team	2 weeks
Update concept notes	Based on the feedback from the agencies update the concept notes to align the projects with national and provincial priorities and policies.	SEED Team/Green Finance Expert	2 weeks
Meet potential funders and GCF AEs	Discuss updated concept notes with key funders in Pakistan - multilateral, bilateral and GCF AEs – NRSP, JS, FAO, UNDP, ADB, WB, FCDO, Acumen, WWF. Several international AEs also provide direct funding.	SEED Team	2-4 weeks
Shortlist funder and concept note	Based on inputs from the funders and government agencies shortlist the potential funder and 1-2 concept notes for further pursual	SEED Team/Green Finance Expert	1-2 week

Develop funding proposal	Develop detailed concept note and proposal for funding. Funders will have different processes, generally these would include, identifying key actors, project objectives, environmental and climate rationales, funding requirements, and budgets for proposal development	SEED Team/Green Finance Expert	3-6 months

Programmatic approach:

Next, we recommend SEED use the project experience to develop green thematic programmes focused to key priorities in KP, starting with energy, water, clean environment, food security, and transportation. While the process for accessing green financing from large global finance facilities can vary, we recommend that SEED should be prepared to follow the below action steps, or a version of it, in order to obtain funding from the entities outlined in this report for KP. These steps are similar to the action steps for the project funding, with an extended scope.

Action Steps	**Activity**	**Responsibility**
Identify thematic programme	Identify 2-3 thematic programmes that are aligned with green financing agendas of major green finance facilities and national priorities	SEED Team
Develop draft concepts notes	Develop 2-3 concept notes (2-pagers max). These should cover the green financing programmes selected from energy, water, clean environment, food security, and transportation sectors	SEED Team / Green Finance Expert
Meet KP and National Govt Agencies / other stakeholder consultation	Identify and align the concept notes programmes with national and provincial priorities and policies. Key agencies to meet include national ministry of climate change and KP and national ministries of planning, energy, wate and food security. Ideally meet with the secretaries and if possible, the ministers. Carry consultation with other key stakeholders identified in the brief.	SEED Team
Update concept notes	Based on the feedback from the agencies update the concept notes to align the programmes with national and provincial priorities and policies.	SEED Team/Green Finance Expert
Meet potential funders and GCF AEs	Discuss updated concept notes with key funders in Pakistan - multilateral, bilateral and GCF AEs – NRSP, JS, FAO, UNDP, ADB, WB, FCDO, Acumen, WWF. Several international AEs also provide direct funding.	SEED Team/Green Finance Expert
Shortlist funder and concept note	Based on inputs from the funders and government agencies shortlist the potential funder and 1-2 concept notes for further pursual	SEED Team/Green Finance Expert
Develop funding proposal	Develop detailed concept note and proposal for funding. Funders will have different processes, generally these would include, identifying key actors,	SEED Team/Green Finance Expert

	programme objectives, environmental and climate rationales, funding requirements, and budgets for proposal development	
Set-up organisational structure	Based on the funder's requirements and programmatic needs, set-up an appropriate organisational structure for the programme. This may entail a public-private partnership model to encourage local ownership and continuity of programme beyond the initial funding.	SEED Team/Green Finance Expert

Prototype KP green finance facility:

In parallel to pursuing financing options from global entities for projects and programmes, we recommend that SEED also explore the potential for establishing a domestic green finance entity. We put forth this recommendation for several reasons: 1) The processes and timelines required for obtaining funding from global development finance organizations can be lengthy and complicated, thus KP cannot rely solely on a select channel for financing; 2) As indicated through this consultancy, there are manifold climate-related challenges facing KP, which will require the participation of numerous organizations inside and outside of Pakistan; 3) KP and Pakistan as a whole need to build its internal capacity to finance green projects, so as so enhance its resilience and minimize reliance on external players.

There are myriad ways in which SEED can assist KP build a green finance facility. We recommend that it soon commences an exercise in order to identify the potential parameters of said vehicle. The proposed undertaking could involve the following phases and steps.

#	Phase	Key tasks
1	Scoping	• Examine main interventions areas to identify where a financial vehicle would be most catalytic
2	Assess feasibility	• Internal consultations with government and private sector stakeholders to assess main opportunities for partnership and leadership, as well as external consultations with potential funding and capital providers
3	Structuring	• Identify the precise financial structure and potential funding and capital providers
4	Final recommendation	• Present main findings and offer ideas on how to best move forward

Annexure 1 - Key definitions:

- **Adaptation:** UNFCCC defines adaptation as **"**adjustments in ecological, social, or economic systems in response to actual or expected climatic stimuli and their effects or impacts. It refers to changes in processes, practices, and structures to moderate potential damages or to benefit from opportunities associated with climate change."

- **Green Finance:** The G20 Green Finance Study Group offers a compelling definition of green finance as "financing of investments that provide environmental benefits in the broader context of environmentally sustainable development. These environmental benefits include, for example, reductions in air, water and land pollution, reductions in greenhouse gas (GHG) emissions, improved energy efficiency while utilizing existing natural resources, as well as mitigation of and adaptation to climate change and their co-benefits."

- **Green Industry:** Means economies striving for a more sustainable pathway of growth, by undertaking green public investments and implementing public policy initiatives that encourage environmentally responsible private investments. Greening of industry is a method to attain sustainable economic growth and promote sustainable economies. It includes policymaking, improved industrial production processes and resource-efficient productivity.

- **Green industrial policy (GIP):** Strategic government policy that attempts to accelerate the development and growth of green industries to transition towards a low-carbon economy. Green industrial policy is necessary because green industries such as renewable energy and low-carbon public transportation infrastructure face high costs and many risks in terms of the market economy. GIP is conducive to sustainable economic, institutional, and technological transformation. It goes beyond the free market economic structure to address market failures and commitment problems that hinder sustainable investment. Effective GIP builds political support for carbon regulation, which is necessary to transition towards a low-carbon economy.

- **Mitigation:** According to UNFCCC mitigation refers to "a human intervention to reduce the sources or enhance the *sinks* of greenhouse gases (GHGs)".

Annexure 2 – Menu of green funding sources:

Global green funds:

Green Climate Fund (GCF) (https://www.greenclimate.fund) Founded in 2014, GCF is a multilateral investment entity and is the world's largest dedicated fund helping developing countries reduce their greenhouse gas emissions and enhance their ability to respond to climate change, through making invests in low-emission and climate-resilient development. The fund was established within the framework of the UNFCC to assist developing countries in creating/building climate change adaptation and mitigation strategies/practices. The GCF is fundamentally a partnership body mandated to take a country-driven approach through its partner entities to deploy climate funding in developing countries. It does not directly implement projects and operates through accredited entities for implementation on the ground. The fund invests in a mixture of grants (44%), loans (42%), equity (6%), results-based payments (7%), and guarantees (1%). Funding in available for micro (upto US$10 million), small (US$10-50 million), medium (US$50-250 million), and large (over US$250 million) projects. Project Preparation Facility of upto US$1.5 million to support proposal development is also available. To date GCF has funded 159 projects, and the anticipated number of people with increased resilience totals 408 million, and the anticipated tonnes of CO2 equivalent avoided totals 1.2 billion. As of 2020 it had US $10.3 billion pledged and US$ 8.24 billion confirmed. Currently there are three active projects in Pakistan with a total GCF financing of US$121million in climate resilient agriculture and water management, public transportation and glacial lake outburst flooding.

Adaptation Fund (AF) (https://www.adaptation-fund.org) AF is a global fund that finances projects and programs aimed at helping developing countries build resilience and adapt to climate change. To date it has allocated a total of US$778 million to climate adaptation activities, leading to the restoration of 271680 natural habitats, and helping 9 million direct beneficiaries in developing countries. A distinguishing feature of the fund is that it possesses a "direct access mechanism" wherein accredited national implementing entities and regional implementing agencies in developing countries can directly access financing from it. Along with project funding, AF offers several grants for project preparation and technical assistance. Currently there are two active projects in Pakistan with a total funding of US$10million in water scarcity and flooding.

The Forest Carbon Partnership Facility (FCPF) (https://www.forestcarbonpartnership.org) FCPF uses results-based finance and is comprised of two vehicles - the Readiness Fund and the Carbon Fund. It was created and is managed via a global partnership of governments, businesses, civil society, and indigenous peoples, and deploys financing and training in order to reduce emissions from deforestation and forest degradation, forest carbon stock conservation, the sustainable management of forests, and the enhancement of forest carbon stocks in developing countries, commonly known as REDD+. To date it has allocated a total of US$1.3 billion million for REDD+ activities. Currently Readiness Preparation Activities are ongoing in

Pakistan covering REDD+ policy analysis, technical preparation, management, designing and testing for payment for environmental services. In 2017 the Government of Pakistan requested US$5 million additional funding for conducting pilot projects and documenting best practices.

Global Environmental Facility (GEF) (http://www.thegef.org) The GEF is a grant making body that funds a wide range of environmental projects across the following sectors: biodiversity, climate change, international waters, land degradation, the ozone layer, persistent organic pollutants, mercury, sustainable forest management, food security, and sustainable cities, among others. Since its creation in 1992, the GEF has provided more than $21.1 billion in grants and mobilized an additional $114 billion in co-financing for more than 5,000 projects in 170 countries. GEF has funded close to 40 national projects in Pakistan, with commitment of nearly US$100 million. Through its Small Grants Programme, the GEF has provided grant support upto US$ 50,000 to more than 25,000 civil society and community initiatives in 133 countries including Pakistan.

Climate Investment Funds (CIF) (https://www.climateinvestmentfunds.org) Founded in 2008, the CIF's is an $8 billion multi-donor trust fund that focuses on clean technology, climate resilience, energy access, and sustainable forests, with investments in 72 developing and middle-income countries. CIF is comprised of four funds: The Clean Technology Fund (CTF); the Forest Investment Program (FIP); the Scaling up Renewable Energy in low-income countries Program (SREP); and the Pilot Program for Climate Resilience (PPCR). The World Bank is the trustee of the funds. Thus far, it has leveraged USD$21.4 billion in co-financing across 63 projects, installed 7,569 MW in renewable energy capacity across 34 projects, and achieved 5,563 GWh per year in energy savings from 19 projects. Pakistan has not received any funding from CIF to date. Whereas within South Asia, India and Nepal has received funding for clean energy and climate resilient projects.

Global Climate Partnership Fund (https://www.gcpf.lu/renewable-energy-and-energy-efficiency-investments.html) Managed by Responsability, the GCPF is a public-private partnership that uses public funding to leverage private capital in order to mitigate climate change in developing and emerging markets. GCPF mainly invests through local financial institutions but also directly. The fund focuses on countries with the most significant GHG emissions and the greatest potential to increase efficiency. In addition, GCPF supplies resources for projects and areas that lack appropriate funding. The fund primarily finances projects targeting SMEs and households in the following sectors: energy efficiency projects that reduce projected greenhouse gas emissions by at least 20%, renewable energy generation projects.

Urban Environmental Infrastructure Fund (https://www.adb.org/what-we-do/funds/urban-environmental-infrastructure-fund) Founded in 2009, under the Urban Financing Partnership Facility, the Urban Environmental Infrastructure Fund (UEIF) supports the Asian Development Bank's Strategy 2020 for basic and economic infrastructure need. An initial US$21 million was contributed. The fund prioritizes: climate change mitigation and adaptation; urban environmental transportation services; urban environmental water and wastewater services; urban

environmental solid waste management services; district heating and cooling services; and urban renewal.

Global Facility for Disaster Reduction and Recovery (https://www.gfdrr.org/en) Launched in 2006, GFDRR provides knowledge, funding, and technical assistance to support disaster risk management projects in developing countries around the world. The organization was founded via a global partnership geared towards helping developing countries navigate and reduce the natural hazards induced by climate change. The partnership is supported by 37 countries and 11 international organizations, and works with over 400 sub-national, national, regional, and international partners.

International Renewable Energy Agency (https://www.irena.org/) An intergovernmental organisation that collaborates with 180 countries, providing various forms of support to nations' transition to a sustainable energy future. It offers policy advice, research and statistics, technology transfer facilitation, convening opportunities, and other knowledge resources that its members can access to promote and improve the usage of renewable energy. IRENA's purview covers a spectrum across the sustainable energy spectrum: bioenergy, geothermal, hydropower, ocean, solar and wind energy in the pursuit of sustainable development, energy access, energy security and low-carbon economic growth and prosperity.

Energy Sector Management Assistance Program (https://www.esmap.org/node/70853) ESMAP is a World Bank-driven partnership that seeks to leverage sustainable/clean energy solutions as a tool to reduce poverty. The program provides analytical and advisory services that complement the World Bank's country financing and policy work that focuses on developing countries' energy sectors.

Multilateral green funds:

World Bank (https://www.worldbank.org/en/topic/climatechange/brief/3-things-you-need-to-know-about-climate-finance) - The World Bank is the largest multilateral funder of climate investments in developing countries. In 2018, it deployed $20.5 billion in climate-related financing, and $17.8 billion in 2019. Bank initiatives using carbon finance have made $2 billion in emission reduction payments since 1999. Additionally, the World Bank and IFC have issued green bonds, which have raised $23 billion for projects that help lower global carbon emissions. Lastly, the World Bank hosts the Innovate4Climate global conference that convenes leaders from government, industry, business, finance, and technology together.

Nordic Development Fund (https://www.ndf.fi) - NDF is the only joint Nordic finance institution focusing exclusively on climate change and development in low-income countries. Specifically, the fund finances climate projects in Africa, Asia and Latin America in collaboration with partners including other Nordic and international financial institutions and aid agencies. NDF also administers the Nordic Climate Facility (NCF), which is a climate change focused challenge

fund that provides financing for Nordic companies and organisations and their partners that are testing innovative climate change concepts, in low-income countries.

Asian Development Bank (https://www.adb.org/work-with-us/investors/adb-green-bonds, Since 2015 the ADB has issued green bonds in the Asian market. It operates a Green Bond program that currently has an outstanding bond issuance of over USD3 billion, and funds projects in sectors including clean energy, sustainable transport and urban development, green land use and forest management, building climate resilience, and strengthening climate change adaptation and mitigation policies. The ADB's green bond program coincides with the organization's water bond program, which has exceeded $1.5 billion since 2010. ADB also operates the ASEAN Infrastructure Fund, which houses the ASEAN Catalytic Green Finance Facility (CGFF). The CGFF finances Southeast Asian infrastructure projects that promote environmental sustainability and contribute to climate change goals.

European Bank for Reconstruction and Development's Green Economy Transition (GET) 2021-25 (https://www.ebrd.com/what-we-do/get.html) - GET is the EBRD's new approach for helping its client countries build green, low carbon and resilient economies. Through the new GET approach, the EBRD will increase green financing to more than 50 per cent of its annual business volume by 2025. It also aims to reach net annual GHG emissions reductions of at least 25 million tonnes over the five-year period. GET 2021-2025 adopts a systemic approach in supporting the transition to low-carbon and resilient economies. To date, the EBRD has signed €36 billion in green investments and financed over 2,000 green projects, which are expected to reduce 104 million tonnes of carbon emissions yearly. In 2019 alone, it financed over 2.2 GW of new renewable power capacity.

Asian Infrastructure Investment Bank - Amundi Climate Bond Portfolio (https://www.aiib.org/en/policies-strategies/framework-agreements/climate-change-investment-framework/index.html) **-** The Asian Infrastructure Investment Bank (AIIB) and Amundi operate a USD500-million Asia Climate Bond Portfolio. The Asia Climate Bond Portfolio will invest in labelled green bonds and unlabelled climate bonds and engage with issuing companies to help them transition their business models to increase climate resilience and green leadership. Additionally, a portion of the investment proceeds will be allocated to market education, engagement and issuer support. The joint project expects to raise an additional USD500-million from climate change-focused institutional investors. Amundi and AIIB also co-developed a Climate Change Investment framework, which analyses issuers' ability to cope with climate change.

Bilateral green funds:

Dutch Fund for Climate and Development (https://thedfcd.com/) - A consortium of FMO, SNV Netherlands Development Organisation, World Wide Fund for Nature, and Climate Fund Managers collectively manage the Dutch Fund for Climate and Development. The fund is

comprised of three separate facilities: origination, water, and land use. The Origination Facility (OF) is focused exclusively on project identification and (pre-) feasibility development activities with a cross DFCD thematic subsector focus. It has €30 million to invest across ~ 70 projects. The land use facility targets investments that have graduated from the OF in sectors relating to agroforestry, sustainable land use and climate resilient food production, and has €55 million to invest across ~ 25 companies. Lastly, the water facility also targets investments that have graduated from the OF in sectors related to water, sanitation and environmental protection, and has €75 million will be allocated to this window to be deployed in roughly 30 projects.

Korea Green Growth Trust Fund (http://www.kgreengrowthpartnership.org) - The Korea Green Growth Trust Fund is a partnership between the World Bank Group and the Republic of Korea, established in 2013 to support green development efforts in client countries. The Trust Fund finances on-the-ground programs as well as knowledge exchange activities, and to date has approved 122 programs in the urban, transport, information and communication technology, energy, environment, water, and climate sectors. The fund has grown from US$40 million to US$88 million through 2021.

The Danish Climate Investment Fund (http://www.danishclimateinvestmentfund.com/) - The Danish Climate Investment Fund (KIF) offers risk capital and advice for climate investments in developing countries and emerging markets in Asia, Africa, Latin America and parts of Europe. KIF is managed by the Investment Fund for Developing Countries (IFU), which has participated in more than 1,200 investments in more than 100 countries in cooperation with Danish trade and industry. KIF invests in projects that, directly or indirectly, contribute to reducing GHG emissions. It can provide share capital for establishment of businesses in cooperation with Danish companies or can participate as a co-investor in larger climate projects that include Danish technology. One flagship investment was in the Lake Turkana Wind Power Project in Kenya, the largest wind farm in Africa, providing 25 percent of Kenya's electricity demand.

KfW - (https://www.kfw.de/KfW-Group/Newsroom/Themen-kompakt/Klimafinanzierung-der-KfW/) From 2013 to 2018, KfW invested approximately EUR 23.6 billion in climate-related projects. This activity has included a close collaboration with the Green Climate Fund. GCF committed EUR 102.7 million to a KfW project in Tanzania. KfW and GCF also signed an agreement at the UN Climate Change Conference in Bonn for a "Climate Resilient Infrastructure Mainstreaming" project in Bangladesh wherein GCF contributed a grant of USD 40 million. Additionally, KfW is highly active in the green bond space. Since creating the green bond program in 2014, KfW KfW has granted EUR 3.8 billion under its "Renewable Energies – Standard" programme and co-financed a total of EUR 5.9 billion's worth of projects. KfW has also conducted thorough analyses (and made the analysis public) of the impact generated by its green bond issuances. For example, in 2018 its bond issuances contributed to the prevention of approximately 1,284,000 tons of greenhouse gas emissions per annum, and that proceeds created/secured more than 27,000 jobs, and reduced energy imports to Germany and/or costs associated with fossil fuel in an amount of approximately EUR 64 million per annum.

UKAID (https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/832315/UK-International-Climate-Finance-Booklet.pdf) - UKAID's climate finance efforts have primarily focused on capacity building and funding other climate funds, and since 2013, it has provided over £1.8 billion in adaptation finance since 2013. Its activities include: demonstrating and deploying decarbonization technologies and policies, and funding climate funds in development banks. Additionally, UKAID has a range of initiatives to combat deforestation, which includes supporting indigenous communities, providing incentives to reduce emissions from deforestation through government partnerships and results-based finance. To date, its climate finance efforts have achieved the following: 1,600 MW clean energy, capacity installed, 16 million avoided or reduced tonnes of GHG emissions, 26 million people provided with improved access to clean energy, £3.8 billion public finance mobilised for climate change, £1.4 billion private finance mobilised for climate change, and 57 million people supported to cope with climate change.

Sovereign green bonds (emerging markets): Examples

Nigeria Sovereign Green Bond (https://www.climatebonds.net/files/reports/nigerian-green-bond-market-development-programme-state-of-the-market-final.pdf) - In 2017 the Nigerian government issued USD 27 million in sovereign green bonds. The proceeds of the bonds were utilized in funding three green projects - the Energizing Education Project, Rural Electrification Project and the Afforestation Project.

Indonesian Sovereign Green Bond (https://www.ndcs.undp.org/content/ndc-support-programme/en/home/impact-and-learning/library/indonesia-s-green-bond---sukuk-initiative.html) - In 2018 the Indonesian government issued the very first sovereign green sukuk at an amount of $1.25 billion. At the time of issuance, it was the first sovereign green issue from Asia, and the largest green sukuk in the world. Proceeds were targeted at a range of mitigation and adaptation projects including: renewable energy, energy efficiency, resilience to climate change for highly vulnerable areas and sectors/disaster risk reduction, sustainable transport, waste-to-energy and waste management, green tourism, green buildings; and sustainable agriculture.

Malaysian Sovereign Green Sukuk Bonds (https://renewablesnow.com/news/overview-2017-green-bond-issuance-reaches-record-usd-1555bn-597271/) In 2017 Malaysia launched the world's first green sukuk bond. The proceeds are used to fund a specific environmentally sustainable infrastructure project, such as the construction of renewable energy generation facilities. The first three of these bonds were issued by Tadau Energy (USD 58.5m) - Sustainable Responsible Investment (SRI) sukuk, the green SRI sukuk Tadau, has been given a long-term rating of 'AA3' by RAM Rating Services Berhad - followed by Quantum Solar (USD 236m) and Permodalan Nasional (USD 461m).

Chilean Sovereign Green Bonds (https://www.climatebonds.net/certification/republic-of-chile) - Since 2019 Chile has issued multiple sovereign green bonds. Initially, Chile issued USD 950

MM of 12-year green bonds, part of a $2.5 billion equivalent issuance from the Ministry of Finance. Since then, it issued another 6.228 BN in 2020. Chile's green bond programme is part of a broad strategy for addressing the effects of climate change. The Government prepared its Green Bond Framework in conjunction with the Inter American Development Bank, which included eligible green expenditures dedicated to clean transportation; energy efficiency; renewable energy; living natural resources, land use and marine protected areas; water management; and green buildings. The green bonds contribute to the achievement of specific targets, including reducing its CO_2 emissions by 30% by 2030.

The below table provides an overview of the bonds issued to date by the Chilean government as an example

Date of Issue	Size	Tenor	Sectoral focus
June 2019	USD 1.418 billion	31 years	● Solar ● Low Carbon Transport ● Low Carbon Buildings - Upgrades ● Water Infrastructure
July 2019	USD 979 million	12 years	● Solar ● Low Carbon Transport ● Low Carbon Buildings - Upgrades ● Water Infrastructure
January 2020	USD 764 million	11 years	● Low Carbon Transport
January 2020	USD 900m	30 years	● Low Carbon Transport
January 2020	USD 1.398 billion	20 years	● Low Carbon Transport
January 2020	USD 750m	12 years	● Low Carbon Transport

Sovereign green bonds (OECD): Examples

Poland Sovereign Green Bond - In 2016 Poland became the world's first sovereign issuer after raising USD 902 million from selling five-year green bonds. Proceeds from the Green Bond were used to finance renewable energy generation, clean transportation, sustainable agricultural operations, afforestation, national parks, and remediation of contaminated land.

Netherlands Sovereign Green Bond The Dutch government began issuing green bonds in 2019, which are used to fund projects in sectors including solar energy, renewable energy, water infrastructure, low carbon land transport, and upgrades to reduce carbon outputs from buildings. Specifically, a large portion of the proceeds will fund the government's Delta Plan, which is the world's most advanced and sophisticated floodplain management system.

Belgium Sovereign Green Bond - In 2018, Belgium issued its first sovereign green bond worth USD 5.54 billion, which will finance in projects focusing on five main green sectors -- clean transportation, energy efficiency, renewable energy, waste management and circular economy adapted products and living resources and land use.

French Sovereign Green Bond - The French government issued a USD 7 billion green bond in 2017, and will broadly focus on climate change adaptation and mitigation measures, protecting biodiversity and fighting pollution. To date, the bond has raised USD 28 billion and the government is considering launching another green bond in 2021.

Private green investment - private equity and venture capital:

Global Environmental Fund (http://www.globalenvironmentfund.com) Global Environment Fund (GEF) is a global alternative asset manager established in 1990 to invest in high-growth clean energy, energy and resource efficiency, environmental, and sustainable natural resource management industries throughout the world. Our investments finance innovative businesses that deploy proven technologies, products and services that incrementally make the world economy run with less energy, utilize fewer raw materials, promote improved environmental quality and more efficient use of natural resources. The business models of such companies "lighten the footprint" of traditional industries by delivering tangible reductions in energy consumption, environmental and greenhouse gas emissions, or by making the economy more environmentally sustainable. In addition, the technologies employed by our businesses may address and reduce key environmental safety and security threats. To date, GEF has invested approximately $1.0 billion in companies operating in these sectors worldwide, both directly from its own balance sheet and through the investment funds it manages.

Blackrock Climate Finance Partnership Fund (https://www.reuters.com/article/us-davos-meeting-blackrock/blackrock-partners-eye-initial-500-million-for-climate-fund-idUSKBN1ZL0N6) - Blackrock provided USD$100 million in concessional capital to the Climate Finance Partnership fund, which was originally created in 2018 by France, Germany and the Hewlett and Grantham charitable foundations. On top of Blackrock's contribution to the fund is expected to raise at least another $400 million. Target sectors include renewable energy, energy efficiency, energy storage solutions and ultra-low and electric transport, and the fund will focus primarily on Africa, Southeast Asia and Latin America.

Breakthrough Energy Ventures (https://www.breakthroughenergy.org/) - Breakthrough Energy Ventures was founded by Bill Gates and 27 other high profile investors in 2015 to invest in cleantech companies. Its sectoral focus areas include nuclear fusion, large-capacity batteries to store renewable energy, and microbe-generated biofuels.

Clean Energy Venture (https://cleanenergyventures.com/) - US-based venture capital fund focused on investing in companies that are commercializing energy technologies and business model innovations that can achieve significant scale by taking advantage of market-driven

forces to address global climate disruption. The fund was launched in 2005 and to date has invested in over 40 companies. In addition to the venture fund, CEV has an angel investment group that operates in partnership with its fund to invest in earlier-stage climate-tech companies.

National and local banks green schemes:

State Bank of Pakistan - Financing Scheme for Renewable Energy (https://www.sbp.org.pk/smefd/circulars/2019/C10.htm) - The SBP launched a financing scheme for renewable energy in 2019, which will fund clients in three areas: 1) renewable energy power projects with a capacity ranging from more than 1 MW and up-to 50 MW for their own use (up to Rs 6 billion); 2) prospective sponsors, desirous of installing renewable energy source based projects/ solutions for generation of electricity up-to 1 MW (Rs. 400 million); 3) vendors and suppliers certified under AEDB Certification Regulation 2018 for installation of wind and solar systems on lease basis or selling of electricity to ultimate owners/user.

Annexure 3 – Representative/benchmark projects:

#	Project	Funder	Sector	Funding amount
1	Promote market-based adoption of integrated biogas technology in small and medium and micro-scale enterprises (SMMEs) in South Africa (https://www.thegef.org/project/promoting-organic-waste-energy-and-other-low-carbon-technologies-small-and-medium-scale)	Global Environmental Facility	Waste management	46.2M USD
2	Greater Cairo Air Pollution Management and Climate Change Project aims to support Egypt's efforts to reduce both air pollution and climate pollutant emissions in line with the country's Sustainable Development Strategy: Egypt Vision 2030. Project will focus on reducing vehicle emissions, improving the management of solid waste, and strengthening the air and climate decision-making system. (https://projects.worldbank.org/en/projects-operations/project-detail/P172548)	World Bank	Air quality monitoring	200M USD
3	Strategic Public Transportation Systems (SETP) Program support the Government of Colombia in developing SETPs in four cities. These SETPs will improve public transportation service for one million passengers-day, modernize the transportation sector and mitigate climate change, while contributing to develop sustainable and competitive cities that provide safe mobility options for their population (https://www.climateinvestmentfunds.org/projects/strategic-public-transportation-systems-setp-program)	Clean Technology Fund - Inter-American Development Bank	Transportation	14.49M USD (300M more expected via co-financing)
4	The overall objective of the Carbon Finance program is to reduce greenhouse gas (GHG) emissions and air pollution associated with the aging fleet of taxi, microbuses, minibuses and buses in Egypt through purchase of Emission Reductions. (https://projects.worldbank.org/en/projects-operations/project-detail/P119483?lang=en)	World Bank	Vehicle emission reductions	8.32M USD

5	The project aims for Improved application of energy conserving and energy efficient techniques and practices in the design, retrofit, operation and maintenance of public sector buildings in Micronesia https://www.thegef.org/project/micronesia-public-sector-buildings-energy-efficiency-mpsbee-project		Global Environmental Fund		Public building energy efficiency		5.3M USD
6	The objective of the proposed project is to accelerate the process of establishing a labelling scheme for low rise homes in the short term and showcase benefits of energy efficient buildings to build energy efficient green homes and address the greenhouse emission reduction goal of Thailand and enhance the comfort and living space for low and middle income populationshttps://www.thegef.org/project/accelerating-construction-energy-efficient-green-housing-units-thailand		Global Environmental Fund		Green housing construction		32M USD
7	Promoting private sector investment through large scale adoption of energy saving technologies and equipment for Textile and Readymade Garment (RMG) sectors of Bangladesh https://www.greenclimate.fund/document/promoting-private-sector-investment-through-large-scale-adoption-energy-saving-0		Green Climate Fund		Private sector energy saving technologies		350M USD
8	Afghanistan Rural Energy Market Transformation Initiative – Strengthening Resilience of Livelihoods Through Sustainable Energy Access https://www.greenclimate.fund/project/fp129		Green Climate Fund		Rural solar energy		21.4M USD
9	The Project aims to develop 22 community-scale solar plus battery storage micro-grids in southern Haiti in communities where currently no grid power exists. The Project will provide affordable and reliable 24/7 access to modern energy services in communities identified through extensive market scoping. The Project incorporates a battery storage solution and a 100 per cent renewable energy- based viable alternative to diesel generators. (https://www.greenclimate.fund/project/sap013)		Green Climate Fund		Renewable energy		45.7M USD

10	The main objective of this project is to support climate strategy and climate change project identification in cities in three countries of the Latin America: Honduras, Nicaragua and Bolivia. To this end, the project will develop and implement a methodology that will allow cities to: (i) identify vulnerabilities to climate change and prioritize the necessary actions to respond to their consequences; (ii) estimate greenhouse gas emissions (GHG) in cities and identify and prioritize the sectors and activities that will contribute most in reducing them; and (iii) develop Action Plans for three cities https://www.ndf.int/what-we-finance/projects/project-database/emerging-and-sustainable-cities-initiative-esci-ii-ndf-c68.html		Nordic Development Fund		Climate strategies for cities		50M USD
11	Building a zero-emissions bus rapid transit (BRT) system that is safe and accessible to all in Karachi. The project aims to establish a 30 kilometre, fully segregated bus rapid transit (BRT) system operated with the “world’s first” biomethane hybrid bus fleet. The project includes innovative features such as a dedicated biogas plant covering 100% of the fuel demand and the last mile connectivity via bikes and e-pedicabs and includes flood proofing of the road https://www.greenclimate.fund/project/fp085		Green Climate Fund / Asian Development Bank		Green public transport		583.3M USD
12	Building resilience to cope with climate change in Jordan through improving water use efficiency in the agriculture sector. https://www.greenclimate.fund/project/fp155		Green Climate Fund / FAO		Agriculture		33.3M USD

Recent Green Climate Fund Approved Projects – March 2021

The 28th GCF Board meeting approved the following projects and programmes:

- USD 175 million for Mongolia: Aimags and Soums Green Regional Development Investment Program (ASDIP), with **ADB** (FP154)
- USD 25 million for Building resilience to cope with climate change in Jordan through improving water use efficiency in the agriculture sector (BRCCJ) with **FAO** (FP155)
- USD 300 million for ASEAN Catalytic Green Finance Facility (ACGF): Green Recovery Program with **ADB** in Cambodia, Indonesia, Lao People's Democratic Republic, Malaysia, Philippines (FP156)
- USD 23.9 million for Coastal Resilience to Climate Change in Cuba through Ecosystem Based Adaptation - "MI COSTA" with **UNDP** (FP157)
- USD 36.8 million for Ecosystem-Based Adaptation and Mitigation in Botswana's Communal Rangelands with Conservation International (FP158)
- USD 29 million for PREFOREST CONGO - Project to reduce greenhouse gas emissions from forests in five departments in the Republic of Congo with **FAO** (FP159)
- USD 17.3 million for Monrovia Metropolitan Climate Resilience Project with **UNDP** (FP160)
- USD 52.8 million for Building Regional Resilience through Strengthened Meteorological, Hydrological and Climate Services in the Indian Ocean Commission (IOC) Member Countries with AFD in Comoros, Madagascar, Mauritius, and Seychelles (FP161)
- USD 82.8 million for The Africa Integrated Climate Risk Management Programme: Building the resilience of smallholder farmers to climate change impacts in 7 Sahelian Countries of the Great Green Wall (GGW) with **IFAD** in Burkina Faso, Chad, Gambia, Mali, Mauritania, Niger, Senegal (FP162)
- USD 280 million for Sustainable Renewables Risk Mitigation Initiative (SRMI) Facility with **World Bank** in Botswana, Central African Republic, Democratic Republic of the Congo, Kenya, Mali, Namibia, Uzbekistan (FP163)
- USD 137 million for Green Growth Equity Fund with **FMO** in India (FP164)

The following projects were also approved under the Simplified Approval Process (SAP):

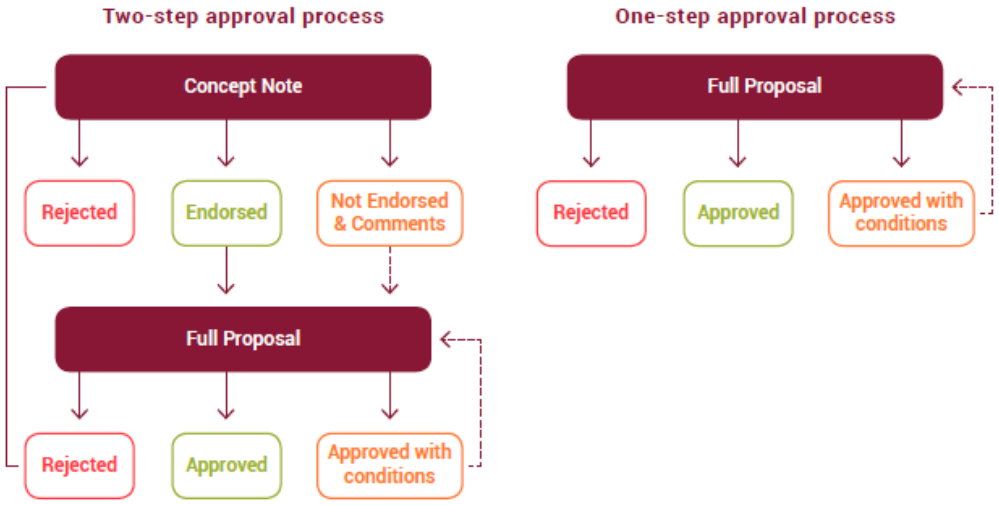
- USD 8.6 million for Climate resilient food security for farming households across the Federated States of Micronesia (FSM) with MCT (SAP020)
- USD 10 million for Community-based Landscape Management for Enhanced Climate Resilience and Reduction of Deforestation in Critical Watersheds with JICA in Timor-Leste (SAP021)
- USD 10 million for Enhancing Multi-Hazard Early Warning System to increase resilience of Uzbekistan communities to climate change induced hazards with UNDP (SAP022)
- USD 9 million for River Restoration for Climate Change Adaptation (RIOS) with FMCN in Mexico (SAP023)

Annexure 4 – Green Climate Fund application process:

SEED can submit funding proposals to the GCF through an Accredited Entity (AE) on a rolling basis. Funding proposals submitted to the GCF should include a no-objection letter signed by the National Designated Authority (NDA) (Ministry of Climate Change). Through the no-objection procedure, the NDA is responsible for ensuring that funding proposals are aligned with national priorities.

The GCF project cycle includes seven main steps. (Source: GCF and Acclimatise Green Climate Fund Proposal Toolkit 2020)

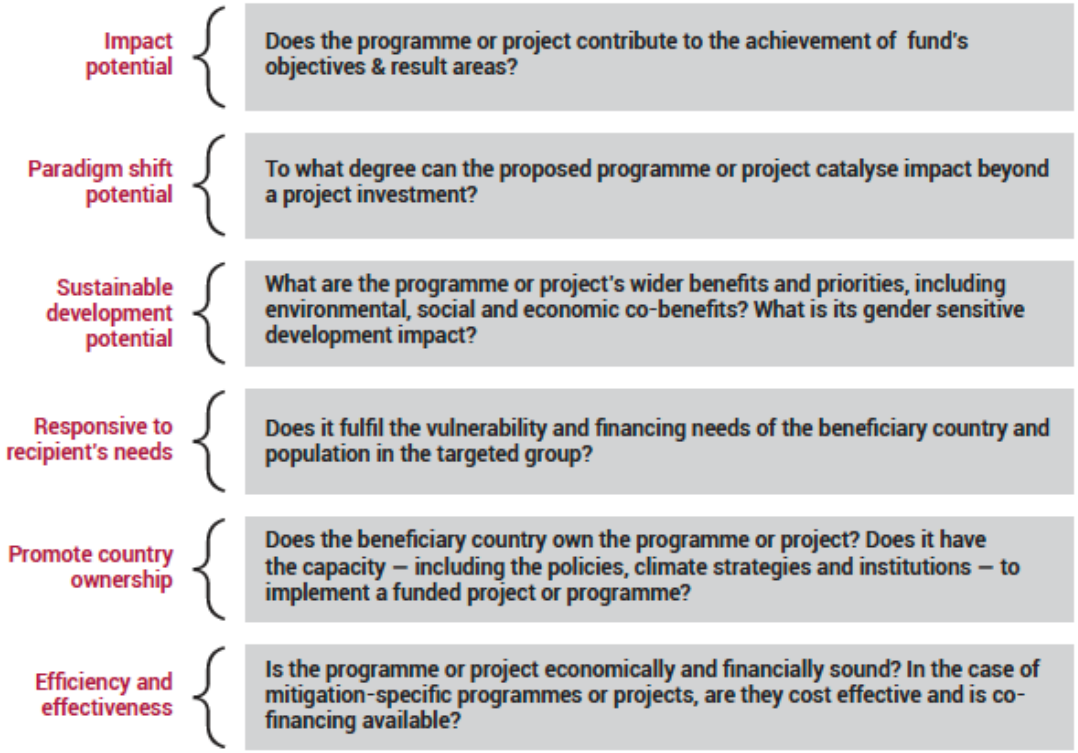
1. The AE or the NDA submits a concept note (voluntary);
2. The AE submits the project proposal to the GCF, in conjunction with a no-objection letter signed by the NDA and submitted within 30 days of the proposal itself;
3. The GCF reviews selected sections of the proposal to assess compliance with GCF policies and the Independent Technical Advisory Panel (ITAP) of the Fund undertakes a technical assessment and provides recommendations;
4. Based on the review and the technical assessment, the GCF Board decides whether to approve the funding or not;
5. If the proposal is approved, a Funded Activity Agreement (FAA) between the AE and the GCF is negotiated and signed;
6. The project enters the GCF portfolio, moving into the implementation phase. Funds are transferred to the AE according to agreed tranches; then
7. The project becomes effective, and the process of monitoring, evaluation and reporting commences and continues until the project or programme closes and exits the Fund's portfolio.



Source: adapted from GCF infographics.

GCF Investment Criteria

The project formulation needs to demonstrate alignment with GCF's six investment criteria



(Source: GCF and Acclimatise Green Climate Fund Proposal Toolkit 2020)

Accredited Entities present in Pakistan

- Direct Access
  - National Rural Support Programme (NRSP)
  - JS Bank Limited
- International/Regional Entity
  - World Bank
  - Asian Development Bank
  - UNDP
  - Food and Agriculture Organisation
  - Acumen Pakistan

Accreditation of KP Entity

SEED can identify and support a KP based entity to seek accreditation for GCF giving provincial ownership and access to KP. The accreditation process is costly, time consuming and rigorous. However, in the long term, the accreditation would open new opportunities for green finance and develop a robust AE.

Annexure 5 – Initial stakeholder consultation:

We consulted three funding entities active in Pakistan to understand the funding requirements and opportunities for green projects and programmes in Pakistan. Below is the summary of the key discussion points.

JS Bank Limited – Green Climate Funded National Accredited Entity
Ali Hasan – Head of Sustainable Initiative

- JS is a national medium-sized AE, eligible for GCF projects up to USD 250 million
- JS is accepting concept notes for GCF funding
- To-date JS has not submitted any project proposal to GCF. It is evaluating 3-4 projects from its clients
- GCF is encouraging adaptation funding proposal, rather than mitigation projects
- Demonstrating sustainability of projects is important to obtain funding
- JS encouraged SEED to share concept notes for evaluation by its team

Acumen – Impact Investor and Green Climate Funded Regional Accredited Entity
Dr. Ayesha Khan, CEO Acumen Pakistan

- Acumen Pakistan is an impact investor with several investments in the social, environmental, health and development sectors entities
- Acumen is a regional AE, with active GCF funded projects in Sub-Saharan Africa in energy and agriculture sectors
- Acumen Pakistan is developing a GCF private sector proposal for a USD 30-50 million climate change agriculture fund, the first climate fund in Pakistan
- Acumen is keen to explore investment opportunities in renewable energy and agriculture in KP and open to partner with SEED for project identification and investments

World Bank – Multilateral and Green Climate Funded International Accredited Entity
Ahsan Tehsin, Senior Disaster Risk Management Specialist,

- Climate change is an active priority of WB, with funding for adaptation and mitigation activities
- WB working on carbon markets, green bonds and natural capital accounting globally
- WB is engaged with the government on climate change, but progress is slow due to capacity challenges within the government
- The climate programmes have to be requested and mandated by the government under the Nationally Determined Contributions (NDC) plans
- The NDC are being currently updated by the government. Opportunity to pitch programmes and projects under the NDC platform
- Most projects of WB are now going to be at provincial level. Multiple funding options available, provincial governments have to take the driving seat

- Projects in Sindh on drought assessment and Punjab on ground water challenges. Including revival of Ravi and Sutlej. Working with KP as well
- WB is developing climate change action plan for Pakistan. The draft will be ready in June. The key themes are
    - Energy decarbonisation - just transition
    - Agriculture and water nexus - water reforms
    - Climate resilient infrastructure and cities
    - Macro fiscal sustainability – project against shock and raising revenues
- Two WB projects for GCF funding are under planning
- WB offers technical assistance for larger project. It has to be demanded by the government
- Encouraged SEED to begin dialogue with KP government

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