

Course Material for Training of Financial Institutions on Structuring Green-Financing Instruments

**Prepared by
Juniper Policy Consulting (Pvt.) Limited**

Joint Projects of NIBAF & WWF Pakistan



This project is funded by
the European Union



**International
Labour
Organization**

TRAININGS ORGANIZED UNDER THE EUROPEAN UNION FUNDED PROJECT TITLED "INTERNATIONAL LABOUR AND ENVIRONMENTAL STANDARDS APPLICATION IN PAKISTAN'S SMEs (ILES)" BEING IMPLEMENTED BY WWF-PAKISTAN AND INTERNATIONAL LABOUR ORGANIZATION (ILO). THE ILES PROJECT AIMS AT CONTRIBUTING TO IMPROVED ENVIRONMENTAL SUSTAINABILITY AND LIVELIHOODS IN PAKISTAN BY SUPPORTING SUSTAINABLE ECONOMIC GROWTH AND DEVELOPMENT.

National Institute of Banking & Finance, Islamabad

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1. Climate Change and its impact on Pakistan

Pakistan's vulnerability to climate change is escalating, manifesting through increased flooding, drought, glacial melting, soil erosion, and other climate-related disasters. According to a report by German watch, an international NGO monitoring climate impacts, Pakistan was ranked as the 8th most affected country by climate change from 2000 to 2019. The report highlighted that the country has suffered 0.3% life losses per 100,000 inhabitants and \$3.8 billion in economic losses due to recurrent floods and climate-induced catastrophes, a substantial figure given Pakistan's population exceeding 200 million.

Climate change in Pakistan could have significant and far-reaching impacts beyond its borders, given its location on a critical geosphere that includes over 7,250 known glaciers and the formidable Karakoram Mountain range, which features 108 peaks exceeding 7,000 meters, including K-2, the world's second-highest peak. Timely recognition of this fact by Pakistan and the global community will enhance their ability to implement effective interventions.

Examples of Climate Change: High Frequency of Floods, Temperature Rise, Depletion of underground water, Contamination of drinking water, Hazardous Waste, Pollution, Prevalence of Smog, Melting of Glaciers & GLOF, deforestation & excessive tourism

Impact: Loss of lives & livelihood, Spread of Diseases, Business & Financial Losses, Reconstruction & rehabilitation costs

2. Laws & Policies on Mitigating Climate Change Impact in Pakistan

Federal Government: Federal Climate Change Ministry, Acts and Regulations, Policies, Strategies & Plans

Example: Pakistan Climate Change Act 2017 and the non-compliance of Federal Government to establish Pakistan Climate Change Authority. The authority, among others, shall appoint a Member Climate Finance which we look into the finances for climate change related initiatives of governments and commercial banks. Reference to the current Case in Supreme Court of Pakistan regarding non-establishment of Pakistan Climate Change Authority.

Provincial & Local Governments: Acts and Policies, Strategies and Plans

MDGs & SDGs & Climate Change related international obligations

3. The Need & Evolution of Green Finance

"Green financing," "responsible investing," and "sustainable investing" are terms that includes the integration of environmental, social, and governance (ESG) factors into investment decisions. The origins of green finance date back to the 1970s. The development of UN Millennium Development Goals (MDGs) in 2000, endorsed by all countries and leading development institutions, raised awareness and provided a preliminary framework for the finance sector to understand its sustainability impact.

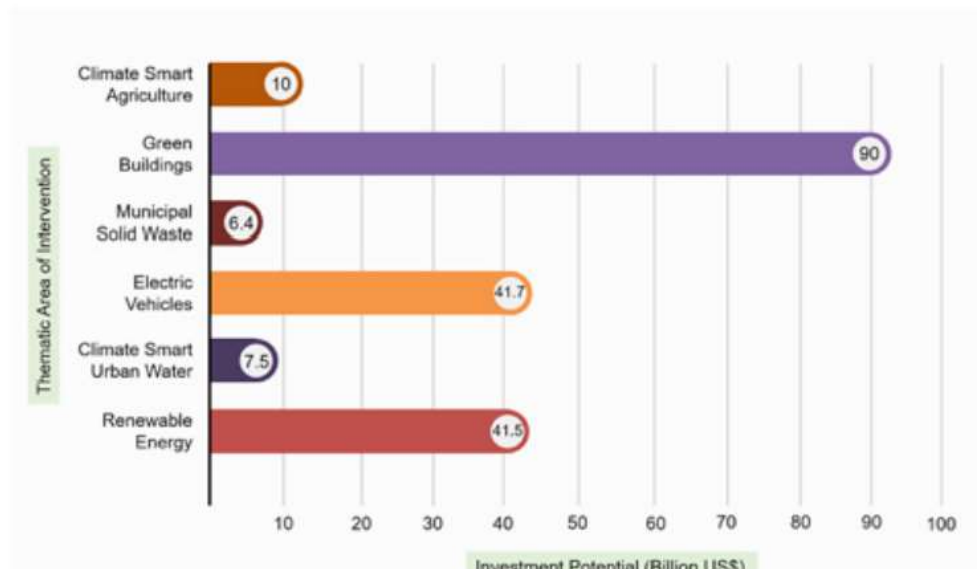
Given this challenging context, current green finance flows are inadequate to meet Pakistan's growing needs. The country faces significant gaps in resource availability, assessment techniques, adaptive technology transfer, and overall capacity to address these issues effectively. Despite some progress, substantial changes are required in the approach to green financing. Currently, green finance efforts are often perceived as Corporate Social Responsibility (CSR) rather than a strategic business case, particularly for SMEs that lack the resources for transformative technologies and must focus on their business cycles.

Green and climate finance are crucial for reducing greenhouse gas emissions and tackling climate-related challenges by mobilizing large-scale investments. According to the United Nations Framework Convention on Climate Change (UNFCCC), developed countries are mandated to provide financial resources to support developing countries in reducing emissions and adapting to climate impacts. The Paris Agreement reaffirms these obligations while encouraging additional voluntary contributions. Developed countries are expected to lead in mobilizing climate finance from various sources, with public funds playing a key role.

To facilitate climate finance, the UNFCCC established a financial mechanism, which can be managed by existing international entities. The Global Environment Facility (GEF) has operated as an entity since 1994, and the Green Climate Fund (GCF) was established in 2010 as an additional entity. These mechanisms are accountable to the Conference of the Parties (COP), which sets policies, program priorities, and funding criteria. Additionally, the COP has established the Special Climate Change Fund (SCCF) and the Least Developed Countries Fund (LDCF), both managed by the GEF, and the Adaptation Fund (AF) under the Kyoto Protocol. The Paris Agreement further incorporates these entities.

Recently, COP 27 in 2022 established a 'loss and damage' fund to support vulnerable countries like Pakistan, with over \$300 million pledged by European countries (UNDP, 2022). The Global Shield against Climate Risks, initiated by the G7 and V20 groups with initial commitments exceeding \$200 million, also contributes to this effort. Several other initiatives focused on green mitigation projects have been announced.

The International Finance Corporation (IFC), the private sector branch of the World Bank Group, has estimated the market opportunity in Pakistan to be \$197.1 billion. The largest potential lies in green building financing, followed by opportunities in electric vehicles, renewable energy, agriculture, water resources, and solid waste management. Implementing these potential interventions could lead to up to a 20% reduction in greenhouse gas emissions by 2030.



Climate Investment Potential in Pakistan

The MDGs laid the groundwork for the 2015 Sustainable Development Goals (SDGs), which adopted a more comprehensive and ambitious approach to development, social, and environmental issues. Addressing the US\$2.5 trillion annual SDG investment gap in emerging and low-income countries is now a key focus of sustainable finance. The MDGs also paved the way for other initiatives, such as the Global Reporting Initiative (GRI), which aids organizations in understanding and communicating their impact on issues like climate change, human rights, and corruption.

The investment sector has also made significant strides. The creation of indices such as the Dow Jones Sustainability Index in 1999 and the Asia Pacific Index in 2009 has facilitated investors in selecting companies with leading economic, environmental, and social practices. The UN Principles for Responsible Investment (PRI), launched in 2006, have guided investors in meeting their commitments to beneficiaries while aligning with broader ESG goals. By April 2018, the global assets managed by the UN PRI's were endorsed by 1,961 corporate market leading firms is now used as a proxy for ESG investment reaching to US\$81.7 billion.

The development of green and social bonds has also played its role and provided a valuable financing tool for corporates and sovereigns. The European Investment Bank issued the first green bond in 2007 to fund its climate-related projects. In 2018, a record US\$247 billion worth of green, social, or economic sustainability-themed debt instruments were issued, with China emerging as a major issuer contributing US\$25.5 billion in green bonds. Apart from aforementioned initiatives, there are 27 conventions and treaties at UN level that have shaped the sustainability finance over the years. The majority of governments around the globe are signatories to these universally agreed conventions related to environmental protection, good governance, human rights and promoting decent work environment. In entirety all these conventions have contributed and promoted green and sustainable finance. This report has enlisted the following 27 conventions, 8 are related to environmental protection, 4 relate to good governance, 7 are linked to human rights and 8 are associated to labour rights:

Environmental Protection

- i. Convention on International Trade in Endangered Species of Wild Fauna and Flora (1973)
- ii. Montreal Protocol on Substances that Deplete the Ozone Layer (1987)
- iii. Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal (1989)
- iv. Convention on Biological Diversity (1992)
- v. United Nations Framework Convention on Climate Change (1992)
- vi. Cartagena Protocol on Biosafety (2000)
- vii. Stockholm Convention on persistent Organic Pollutants (2001)
- viii. Kyoto Protocol to the United Nations Framework Convention on Climate Change (1998)

Good Governance

- i. United Nations Single Convention on Narcotic Drugs (1961)
- ii. United Nations Convention on Psychotropic Substances (1971)
- iii. United Nations Convention against Illicit Traffic in Narcotic Drugs and Psychotropic Substances (1988)
- iv. United Nations Convention against Corruption

Human Rights

- i. Convention on the Prevention and Punishment of the Crime of Genocide (1951)
- ii. International Convention on the Elimination of All Forms of Racial Discrimination (1969)
- iii. International Covenant on Civil and Political Rights (1976)
- iv. International Covenant on Economic, Social and Cultural Rights (1976)

- v. Convention on the Elimination of All Forms of Discrimination against Women (1981)
- vi. Convention against Torture and Other Cruel, Inhuman or Degrading Treatment or Punishment (1987)
- vii. Convention on the Rights of the Child (1990)

Labour Rights

- i. Freedom of Association and Protection of the Right to Organize Convention, 1948 (No. 87)
- ii. Right to Organize and Collective Bargaining Convention, 1949 (No. 98)
- iii. Forced Labour Convention, 1930 (No. 29) (and its 2014 Protocol)
- iv. Abolition of Forced Labour Convention, 1957 (No. 105)
- v. Worst Forms of Child Labour Convention, 1999 (No. 182)
- vi. Equal Remuneration Convention, 1951 (No. 100)
- vii. Discrimination (Employment and Occupation) Convention, 1958 (No. 111)
- viii. Minimum Age Convention, 1973 (No. 138)

4. The Role of Banks & DFIs in Promoting Green Finance

Public opinion is a driving force behind the growing emphasis on sustainability, which is further reinforced by new regulations affecting businesses and finance. The European Union has taken significant steps in this direction, establishing a climate mitigation classification system, a green bond standard, low-carbon investment benchmarks, and guidelines for corporate disclosure of climate-related information.

Commercial Banks, as crucial intermediaries in the financial system, are well-positioned to advance sustainable finance. By committing to deliver long-term value not only to their shareholders but also to society and the environment, banks can significantly impact while tapping into substantial opportunities. The International Finance Corporation (IFC) estimates that climate-related sustainable finance opportunities in emerging markets alone could reach US\$23 trillion by 2030.

One of the most effective tools banks have to drive change is financing. They can choose to blacklist industries that contribute significantly to climate change, such as coal-fired power plants, agro-industries involved in deforestation, or sectors with human rights violations. Conversely, banks can support initiatives like microfinance, renewable energy projects, and blended finance, which uses development finance to attract private sector investments, all of which promote sustainability.

To meet the demands of sustainability, banks may need to invest in resources to enhance data transparency. This could include training risk and frontline staff to understand

sustainability better, enabling them to assist clients in navigating this rapidly changing landscape and seizing new opportunities.

5. Overview of Policy Landscape for Green Finance in Pakistan

Pakistan does not have a nationally defined policy on green finance; at a national level, the allocation of finance for green projects falls under the domain of the Planning Commission (PC), through the Public Sector Development Program (PSDP). However, in recent years, several other public sector organizations have begun to take a keen interest and thus, have introduced a number of guidelines, regulations, and initiatives that are playing a key role in setting the stage for the implementation of green finance in Pakistan.

A timeline depicting the major events related to green financing in Pakistan is presented below:



5.1 The Role of State Bank of Pakistan

As one of the key financial institutions in the country, SBP has been working proactively in the past few years to promote green finance and sustainable initiatives domestically. As an initial step, in 2015, SBP became a pioneering member of the 'Sustainable Banking and Finance Network', coordinated by the IFC of the World Bank Group, which was established with the aim of sharing knowledge on financial initiatives taken across the world in relation to sustainable development.

Adhering to its role as the central bank of Pakistan, SBP has also played an active role in assisting commercial banks in building green portfolios by introducing a financing scheme for renewable energy in 2016, as well as its Islamic version in 2019. This scheme, originally valid till 2019, has been renewed twice now (first till 2022 and recently till 2024) owing to the overwhelming response it received and its evident contribution to greening

the energy sector of Pakistan. The scheme provides a concessional financing mechanism at a maximum end user interest rate of 6%, which is even less than half of the original interest rate of 13.75% (State Bank of Pakistan, 2016). It caters to the installation of renewable power generation projects in various categories, up to 50 MW; till March 2022, the scheme had successfully supported more than 1,500 projects with a cumulative capacity of 1,400 MW, nearly 85% of which have been large scale corporate ventures.

In addition to this, **in 2017, SBP introduced its Green Banking Guidelines (GBG)**, with support from the German Federal Ministry for Economic Cooperation and Development (BMZ), through the expertise of GIZ. These guidelines define the integration of ESG (Environmental, Social, and Governance) risks into the lending activities of commercial banks; they comprise four key elements (State Bank of Pakistan, 2017):

1. **Organizational structure**, which encourages banks to put in place a proper organizational structure for green banking, including the establishment of a Green Banking Office and appointing a Chief Green Banking Manager that acts as the focal point for green activities within the bank.
2. **Environmental Risk Management (EnvRM)**, which encourages banks to integrate environmental risks into their credit risk management in order to mitigate the environmental exposures of their financing portfolios. This has encouraged many commercial banks to establish environmental risk management procedures and develop 'due diligence checklists' and 'risk ratings' related to environmental concerns.
3. **Green businesses facilitation**, which directs commercial banks to facilitate green businesses and align the focus of their investments with the Sustainable Development Goals (SDGs).
4. **Own-impact reduction**, which expects commercial banks to reduce their impact on the environment through a conscious management of their energy and other resources. Examples of relevant measures include initiatives such as paper-less banking operations and services, the conversion of branches and ATMs to renewable energy, and the establishment of annual impact reduction targets.

The SBP has initiated a project, called the **Pakistan Sustainable Banking Project**, in collaboration with the IFC wing of the World Bank Group (International Finance Corporation (IFC), 2018). The goal is to strengthen and update the existing GBG and to enhance the financial portfolio of commercial banks related to green banking. The project also includes awareness and capacity building activities for the banking industry.

SBP plans to update its GBG to include social risks in the risk management policies and to align the guidelines with international best practices on ESG. It also plans to develop a green taxonomy to enable a better identification of economic activities that play a key role in climate change mitigation and adaptation. Moreover, SBP has recently applied to

become a member of the 'Network for Greening the Financial System', which is a group of central banks and supervisors that, on a voluntary basis, exchange experiences, contribute to the development of environment and climate risk management in the financial sector, and mobilize mainstream finance to support a sustainable economic transition.

5.2 The Role of Securities and Exchange Commission of Pakistan

To promote the implementation of green finance further, in 2021, SECP introduced a set of voluntary guidelines for the issuance of green bonds; these guidelines also include provisions for Sukuk, which refer to Islamic or Shariah-compliant bonds (Securities & Exchange Commission of Pakistan, 2021). The overarching goal of these guidelines is to initiate and facilitate sustainable projects capable of tackling climate change by providing environmentally conscious investors with an alternate financing instrument.

Earlier, in 2013, SECP also laid out voluntary guidelines for Corporate Social Responsibility (CSR), in order to promote responsible business conduct that supports community growth and eliminates adverse practices (Securities & Exchange Commission of Pakistan, 2013). Over the years, these guidelines have encouraged companies to engage in initiatives, which fall under the umbrella of green projects, such as switching to renewable energy in their operations. In this way, policies surrounding CSR initiatives have indirectly served as instruments for green finance.

5.3 The Role of Pakistan Stock Exchange

More recently, the Pakistan Stock Exchange (PSX) has joined in the efforts directed towards sustainable development, by encouraging enlisted companies to report their performance on SDGs. Although PSX cannot play a direct role in providing green finance, it aims to support the process by extending the narrative of ESG in the capital market and companies listed in the stock exchange. For this PSX, along with Pakistan Institute of Corporate Governance (PICG), has established an ESG taskforce directed to define standard regulations, reporting practices and procedures to be adopted by companies listed on the stock exchange (Pakistan Stock Exchange, 2021).

In June 2022, PSX also joined the Sustainable Stock Exchanges (SSE) Initiative, which is an international partnership and peer-to-peer learning platform organized by the United Nations to explore how stock exchanges across the globe can enhance corporate transparency and performance on Environmental, Social and Corporate Governance issues and encourage sustainable investment (Pakistan Stock Exchange, 2022).

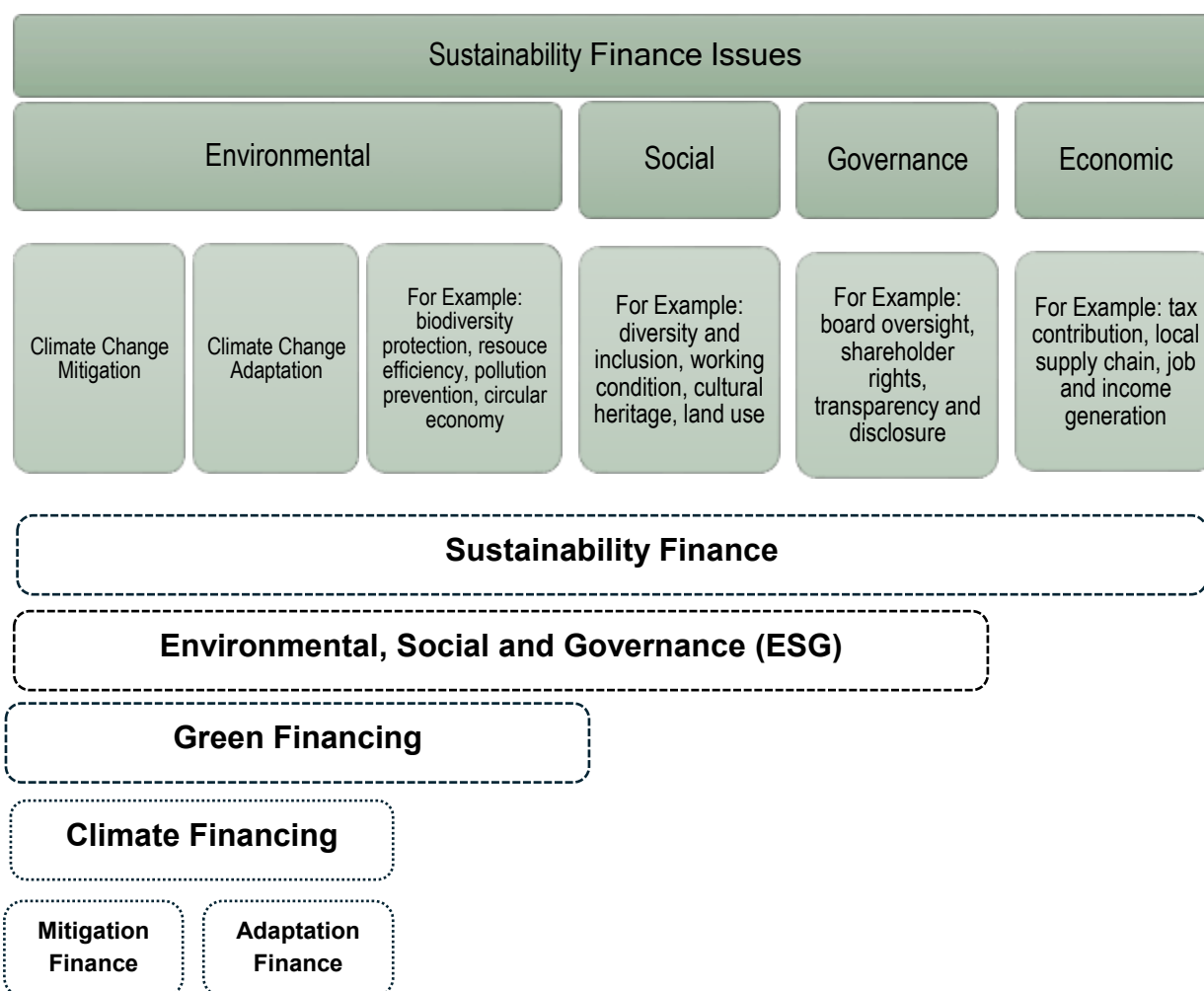
6. Strategizing for Green Finance: Prioritizing Environmental and Social Objectives

A precise and clearly defined understanding of "green finance" is essential for its practical application and is particularly important for creating targeted policies, conducting statistical monitoring, and evaluating the effectiveness of regulations. However, there is no universally accepted definition of green finance. Some definitions focus on the processes that guide and monitor financial flows. For example, some defines green finance in the banking sector as financial products and services that consider environmental factors throughout the lending decision-making process, monitoring, and risk management, aimed at promoting environmentally responsible investments and stimulating low-carbon technologies, projects, industries, and businesses. Others define green finance based on specific environmental objectives or sectors, such as climate change mitigation, biodiversity conservation, waste management, and pollution control.

Green finance is often associated with financing initiatives that reduce greenhouse gas emissions, but it should encompass a wider range of environmental issues. Some advocate for a broader concept of "green and inclusive" finance that addresses environmental, social, and economic aspects of sustainable development. In our context, while acknowledging that green finance indirectly supports economic and social sustainability by achieving environmental benefits, we define green finance as a financial system aimed at achieving environmental sustainability.

When considering State Bank Green Finance Guidelines, our focus extends beyond merely measuring the volume of investments labeled as "green." We aim to understand the system dynamics that can reduce financing for activities or assets that negatively impact the environment and increase financing for assets or activities, such as energy conservation, emission reduction, and pollution control, that positively affect the environment.

Aspirations for a sustainable financial system involves addressing a wide range of environmental, social, and governance issues. To begin, it is crucial to clearly identify and focus on the primary environmental and social objectives expected from the roadmap, aligning them with the key Sustainable Development Goals (SDGs). This clarity will guide the selection of essential sustainable finance measures and instruments for the roadmap, such as choosing between a green taxonomy and a sustainable taxonomy. Generally, most countries prioritize environmental measures initially and integrate social elements gradually, though this approach may vary based on local contexts and requirements. The range of sustainable development issues may include the following:



7. Green Finance Framework: Internalizing the Externalities

The issue of externalities is pivotal to the challenge of aligning investment flows with sustainability. Environmental assets like clear skies, clean air, blue water, and green mountains possess intrinsic value that is difficult to quantify and often fall under the category of “**public goods**”, which crosscut existing property rights and market transactions. The benefits provided by the environment and the costs incurred from pollution are rarely monetized, complicating the traditional financial system's ability to recognize and allocate funds appropriately.

Green finance is not merely a corporate social responsibility for financial institutions; it represents a new policy driven development area for the financial industry. A new financial paradigm is required—one that explicitly acknowledges the benefits of natural assets and the costs of pollution through effective policies and market signals, enhances the liquidity of environmental assets, ensures robust environmental risk management, and improves corporate governance. This paradigm should ultimately influence the relative values of various assets and the behavior of investors and their agents.

At its broadest, a focus on green finance includes:

1. The policy framework for internalizing environmental costs and benefits, including governmental macroeconomic and industrial policies, financial regulations, and standards.
2. The financial actors, including policy-based financial institutions (FIs), commercial FIs, and Internet-based FIs that respond to these signals.
3. The financial products, such as green credit, green insurance, green bonds, and green venture capital funds, that serve as instruments for managing risk and intermediating capital.

8. Green Finance Benefit to the Financial Institutions and Companies

Investment managers and corporations are increasingly recognizing that incorporating ESG factors does not negatively affect investment returns. A report by Boston Consulting Group indicates that non-financial performance, as measured by ESG metrics, is a statistically significant predictor of companies' valuation multiples across various industries. Additionally, an analysis by the International Finance Corporation (IFC) of 656 companies in its portfolio revealed that those with strong environmental and social performance outperformed others by 210 basis points in return on equity and 110 basis points in return on assets. The IFC states, "Companies that do well by the environment, their labor force, and communities, do well financially." Some other benefits and motivation for FIs and Companies are enlisted in the following section.

i. Regulatory Compliance:

Many regions and countries are implementing stricter environmental regulations and standards. Adhering to green finance principles helps companies comply with these regulations, avoiding penalties and legal issues.

ii. Reputation and Brand Image:

Adopting sustainable practices enhances a company's reputation and brand image. Consumers and investors are increasingly valuing sustainability, and companies that prioritize green finance can attract positive attention and loyalty.

iii. Access to Capital:

Green finance opens up access to specific funding sources such as green bonds and sustainable investment funds. These financial instruments often come with favorable terms and can attract a broader base of environmentally conscious investors.

iv. Cost Savings and Efficiency:

Investing in sustainable practices, such as energy-efficient technologies and waste reduction, can lead to significant cost savings in the long-run. These investments can improve operational efficiency and reduce resource consumption.

v. Risk Management:

Environmental risks, such as climate change and resource scarcity, can have substantial financial impacts. Incorporating green finance helps companies mitigate these risks, making them more resilient to environmental and economic changes.

vi. Market Competitiveness:

Sustainability is becoming a key differentiator in many markets. Companies that integrate green finance can gain a competitive edge by meeting the growing demand for sustainable products and services.

vii. Investor Expectations:

Investors are increasingly considering environmental, social, and governance (ESG) criteria in their decision-making processes. Companies that follow green finance principles can attract and retain investment from these socially responsible investors.

viii. Innovation and Growth:

Green finance encourages innovation by promoting investments in sustainable technologies and practices. This can lead to new business opportunities and revenue streams in emerging green markets.

ix. Long-term Value Creation:

Sustainable practices contribute to long-term value creation by ensuring that companies operate in a way that is environmentally and socially responsible. This approach can lead to sustainable growth and stability over time.

x. Alignment with Global Goals:

Following green finance principles aligns companies with global sustainability goals, such as the United Nations Sustainable Development Goals (SDGs) and the Paris Agreement. This alignment demonstrates a commitment to global efforts to combat climate change and promote sustainable development.

By adopting green finance, FIs and companies not only contribute to environmental sustainability but also enhance their financial performance, resilience, and reputation in an increasingly sustainability-conscious world.

9. State Bank of Pakistan Green Banking Guidelines (GBGs) and Implementation Manual

Objectives of GBGs

1. To enable financial sector in supporting policy initiatives for transforming Pakistan's economy towards a low carbon and climate resilient economy
2. To reduce environmental impact of banks operations and products/services by reorienting its services towards green initiatives of clients/companies
3. Reduce vulnerability of banks/DFIs from risks arising from the environment

Main Features of the GBGs

If fully implemented, GBGs is expected that banks/DFIs have a system in place that includes the following features:

1. A policy on green banking, which informs stakeholders such as banks/DFIs' clients, investors and employees, authorities and peers that environmental considerations are part of the overall banking activities and how this will impact the mutual business relationship.
2. Internal structures that provide for administrative procedures so that employees are in position to manage green banking requirements. This includes procedures to identify, assess, mitigate, monitor and report on old and new environmental risks. It may include modifications to the current internal approval systems.
3. Financial mechanisms which are adapted to fit green investments such as renewable energy, energy efficiency and other environmentally friendly practices for all clients. Their terms and conditions are tuned to match demand and are actively promoted.
4. A system that reduces environmental impacts stemming from banks/DFIs' own operations.
5. A structural approach to capacity development in support of green banking.
6. Arrangements to periodically review banks/DFIs overall portfolio as to its environmental risk positions and report to relevant stakeholders, such as higher management, shareholders and relevant authorities.

Structure of GBGs

GBGs set the institutional structure of banks/DFIs to implement three areas of Green Banking which includes Environmental Risk Management, Green Business Facilitation and Own Impact Reduction. These are explained below;

A. Institutional Structure to implement GBGs:

Board of Directors and its role in Strategizing Green Finance

- a. The Board of Directors (BoDs) of banks/DFIs should accept overall responsibility of green banking and develop Green Banking Policy of their respective institutions.
- b. The Green Banking Policy should include strategic references as to the role of the institution in transformation towards a low carbon & climate resilient economy and specifically include policy statements on its environmental risk assessment, weighting and management processes (EnvRM), its positioning towards green credits and investments (Green Business Facilitation) and its activeness towards resource efficient operations (Own Impact Reduction).
- c. Further, maximum exposure limits may also be defined for the industries/sectors which are more hazardous to the environment. Board may also define the limits for different environmental friendly projects/sectors.
- d. In addition, the Board should review and approve green banking strategies and budgets relevant to green banking as prepared by the senior management.
- e. The Board should be responsible for reviewing the CSR reporting on environmental related measure of bank/DFI.

Role of Management in Promoting Green Finance

- a. All tiers of management should be held responsible for environmental impacts of the banking activities they undertake.
- b. The senior management should develop strategies, administrative procedures and accountability mechanisms for implementation of Green Banking Policy approved by the Board.
- c. Data management and reporting on green banking
- d. Internal capacity building to shift towards green banking
- e. Dissemination of green banking information to staff, clients and other stakeholders
- f. Audit and compliance to incorporate green banking
- g. Green awareness campaigns
- h. Disclosure of green banking activities

Organization of Banks/DFIs

- a. Green Banking Office
- b. Institutional arrangements
 - I. Environmental Risk Management
 - II. Green Business Facilitation
 - III. Resource efficiency/Own impact reduction
- c. Green liaison officers
- d. Green reporting to senior management/board

B. Environmental Risk Management Guidelines

Environmental Risk Management

Definition of Environmental Risk Management: Environmental Risk Management (EnvRM) is defined as risk management procedure designed to identify, assess, mitigate and monitor environmental risks arising from operations of a business. The EnvRM system is designed to incorporate procedures for evaluation & management of environmental and climate change risks of current as well as future financing/investments of a bank/DFI in credit risk management procedures.

Benefits/Advantages of EnvRM: The EnvRM procedures enable banks/DFIs to minimize their exposures of foreseeable environmental risks and, at the same time, provide adequate protection against unforeseeable risks. In addition to keeping the environmental exposures of a bank/DFI in an acceptable range, the EnvRM also entails the chance for a bank/DFI to build stronger relationships with the clients by shaping their transactions in an environmentally beneficial manner. Properly undertaken, environmental risk management may help to reduce the amount of non-performing assets, open up new financing opportunities and improve financial performance of a bank/DFI.

Environmental Risk Management General Guidelines

1. Policy Statement on EnvRM
2. Forward looking and be ready for incorporating new laws and regulations
3. Applicable on all Financing facilities except consumer financing however large project finance borrowers should be scrutinized for EnvRM
4. EnvRM is applicable on new exposures and the extension of existing exposures.
5. At minimum, compliance with legal and regulatory requirements as well as Multilateral Environmental Agreements (MEAs) the country has signed/ratified
6. Develop an internal EnvRM system
7. Earmarking of individual financing facilities to which EnvRM has applied
8. Provisions to capture environmental risk of bank exposures

Environmental Risk Management Systems

1. Environment Risk Avoidance List

The Avoidance List serves as the precursor of the EnvDD process. This list may mention specific activities/businesses prohibited under the applicable environmental laws and/or regulations.

2. EnvRM Procedures
 - a. Environmental Due-Diligence (EnvDD) Procedures with Environmental Checklists and Sector Specific Guidelines
 - b. Environmental Risk Rating (ERR)/Risk Categorization Model
 - c. Environmental Risk Monitoring (EnvRM) Procedures
 - d. Reporting and Documentation`



Figure 1: EvnRM Procedures

C. Green Business Facilitation Guidelines

1. The Green Business Facilitation Policy and Strategy
2. Development of Green Products & Services
3. Green Advisory Services
4. Customize Green Products and Services
5. Financing Targets for Green Business Facilitation
6. Develop Green Financing portfolio encompassing Energy, Water, Environment and Other sectors
7. Exploring opportunities for Green Banking in all sectors
8. Earmarking of Funds for marketing of green products and services
9. Capturing Multilateral Resources available for Environmental Activities

D. Own Impact Reduction

1. Own Impact Reduction Policy Statement
2. Impact Reduction Targets
3. Green Branches/Offices
4. Paperless Banking Operations
5. Paperless Banking Services
6. Green IT infrastructure

7. Renewable Energy Based ATMs, Branches and offices
8. Resource Efficiency Measures
9. Water Conservation

10. Promoting Green Initiatives in Pakistan's Textile and Leather Industries

10.1 Environmental Footprints of Textile and Leather Industry:

The environmental impact of textile and leather production is substantial and multifaceted, spanning water & energy usage, GHG emissions, chemical consumption, land use, pollution, and waste. The production of a single cotton T-shirt, for example, requires approximately 2,700 liters of freshwater, an amount that could provide one person with drinking water for 2.5 years. Leather tanning is equally resource-intensive, utilizing up to 2.5 kilograms of chemical substances and 250 liters of water per kilogram of leather, and generating up to 6.1 kilograms of solid waste.

Cotton, a major raw material in textiles, occupies 2.3% to 3% of global agricultural land, as estimated by the Food and Agriculture Organization (FAO) in 2015. The production of one kilogram of woven cotton fabric requires 12 to 24 square meters of land, according to a 2015 report by CE Delft, with slightly lower land requirements for linen and hemp. Similarly, wool production shows considerable variability depending on the region and season, needing anywhere from 0.03 to 53 square meters per kilogram of raw wool in fertile areas and 92 to 9,000 square meters in less fertile regions.

Viscose, a fiber derived from hardwood and softwood, also demands significant land resources. The production efficiency of woven viscose fabric varies geographically, with one hectare yielding 1.4 square meters per kilogram in Asia and 2.6 square meters per kilogram in Europe. Overall, the land use for textile production varies widely but averages between 5.1 and 27 square meters per kilogram of fabric.

Water pollution is another critical issue, with the textile industry responsible for around 20% of global clean water pollution due to dyes and finishing agents. Textile and leather sector impact on environment does not end with production of finished product rather is extended during the use and after end of useful life. The average European discards 26 kilograms of textiles annually, contributing to a significant waste problem. A staggering 87% of used clothing ends up in incinerators or landfills, often in non-EU countries, with only 1% being recycled into new garments.

10.2 Role of Textile and Leather Industry

The aforementioned statistics underscore the profound environmental impact of the textile and leather industry, highlighting the urgent need for sustainable practices and innovative solutions to reduce resource consumption, pollution, and waste. Some of the in-house improvements encompass several key areas:

- **Waste Heat Recovery System:** Recovering the valuable energy content from exhaust flue gases of engines, boilers, oil heaters, stenters and hot wastewater from bleaching plants, mercerizers, pad steam machines etc.
- **Automation and Control:** It is one of the critical areas providing a lot of opportunity in textile and leather factories to reduce the resource consumption and associated reduction in releases and emissions. Some of the examples includes application of the variable frequency drives at variable loads like circulation fans and pumps. It also includes the oxygen trim control system deployed to optimize the air to fuel ratio in boilers. Automatic moisture control on fabric drying also very promising in reducing energy consumption in the process.
- **Use of Green Chemistry:** Wet processing in textile and leather requires a lot of chemicals and water requiring significant energy as well to complete the process. However, in last few years green chemicals sourced from natural ingredients requiring lesser water and energy like enzymes are available as alternatives. So changing the processes and using environmental friendly chemicals not only reduces the toxicity of effluents but also reduces input resources (Water, Energy, Chemicals) requirement as well.
- **Boiler Feed Water Quality:** Ensuring the quality of water used in the boiler to enhance efficiency and longevity.
- **Control on Steam Leakages:** Implementing measures to reduce steam leakages, thereby conserving energy.
- **Electrical Load Balancing:** Distributing electrical load evenly to prevent overloading and optimize performance.
- **Optimization of Power House Auxiliaries:** Enhancing the efficiency of auxiliary systems in the power house in order to preserve the energy.
- **Process Water Management:** Managing water used in processes to minimize waste and improve efficiency.
- **Chemical Reduction by Process Optimization:** Reducing hazardous chemical usage through optimized processes and utilizing improved technology vis a vis explore innovation in the processes. The caustic recovery plants in textile processing mills and chrome recovery plant in leather tanneries are good measures to reduce the chemical consumption and pollution loading of final effluents.
- **Condensate Recovery, Monitoring, and Benchmarking:** Recovering and reusing condensate, while monitoring and benchmarking performance to make steam generation process cost effective and energy efficient. The condensate recovery system should also have flash steam recovery provisions as well.
- **Water Turbine Overhauling (Maintenance):** Regular maintenance and overhauling of water turbines to ensure optimal operation and efficiency.

Following the resources can also be used to strengthen the understanding of green implementation measures in textile and leather industries in Pakistan.

- Conserving the Water in Textile Mills
https://wwfasia.awsassets.panda.org/downloads/2020_conserving_water_in_textile_mills_1.pdf
- Chrome Recovery and Recycling in Leather Tanneries
https://wwfasia.awsassets.panda.org/downloads/2020_chrome_recycling_and_recovery_improving_resource_efficiency_in_leather_1.pdf

All of the above options offer attractive paybacks once implemented and sustained and major barrier is the initial capital cost especially for the small and medium enterprises. The progressive textile and leather realizing the potential of these intervention and many others has already invested heavily in last one decade. Some of the examples from these progressive factories are as follows;

11. Best Industry Practices in Pakistan

1. Sarena Textile Industries

Sarena has shown a profound commitment to ensure sustainability in operations and compliance with the most rigorous sustainability standards. Focusing on the triple bottom line; people, prosperity and the planet has helped Sarena to work thoroughly towards creating more value in terms of sustainability. The company has introduced integrated and sustainable technologies and techniques to remain competitive in the global export market.

Sarena aligns its work with the general purpose of the SDGs to create a more sustainable and prosperous world. Its efforts in responsible sourcing, water stewardship, energy conservation, carbon footprint reduction, employee welfare & CSR initiatives and certifications & transparency contribute to several SDGs. The company realizes the importance to adopt the ambitious global goals because the challenges facing the world, including climate change, inequality, and poverty, are urgent and require immediate actions to address. Sarena's key performance highlights of 2022 are as following:

a. PRODUCT STEWARDSHIP

Through its R&D labs, Sarena assesses innovations and evaluates new and more sustainable materials and technologies.

It promotes eco-friendly textile products made with both organic and synthetic raw materials, sourced responsibly to minimize harm to nature, animals, and human health along the supply chains. Sarena also uses cotton that is certified to the Global Organic Textile Standard (GOTS), Organic Content Standard (OCS), Fair Trade and Better Cotton Initiative (BCI). The cotton grown under these programs is made in ecologically and socially responsible ways, while using natural fertilizers and pest control methods.

Sarena promotes sustainable chemical management through compliance with the ZDHC's Manufacturing Restricted Substance List (MRSL) and REACH standards. Products are also tested at regular intervals for Restricted Substance List (RSL) and Oeko-tex Standard 100.

b. WATER STEWARDSHIP

Water conservation so far has been among the key aspects of Sarena's sustainability journey.

Owing to its exemplary water stewardship, Sarena was also the only South-Asian company to be invited to the prestigious World Water Week 2019, organized by Stockholm International Water Institute.

c. ENERGY EFFICIENCY

Sarena has committed to achieve Business Ambition for 1.5°C through Science Based Target Initiatives (SBTi) and is on road to ambitious climate actions. Sarena has made the conscious decision to not use ODSs (Ozone Depleting Substances) in its facility.

d. WASTE AND CIRCULARITY

Sarena is actively moving from a linear model – take, use, waste – to a more circular model where it is maximizing resource use and reuse, and where nothing is wasted. This circular strategy applies to the company's products, as well as to our non-commercial goods such as packaging and items used in our facility. The company has adopted clean manufacturing practices and uses techniques such as just-in-time production to reduce excess inventory. However, the waste (hazardous and non-hazardous) that is generated is segregated at the source.

2. Soorty Enterprises

Soorty is using its comprehensive vertically integrated infrastructure spanning Pakistan, Turkey and Bangladesh to manufacture sustainable denim. Soorty offers LEED certified

production in cost-leading countries – Pakistan and Bangladesh – and provides denim innovation lab in New York. Moreover, Soorty is the only LEED Platinum and Cradle2Cradle Gold certified company across both its denim fabric mill and garment factory – a testament to its commitment to the circular economy and sustainable production.

a. ENVIRONMENTAL POLICIES

Water Pollution

Soorty is committed to minimize depletion of waterbodies by controlling, minimizing and managing disposal of polluted water and chemicals from its manufacturing.

Management and control of polluted water and chemical spill to the water bodies is Soorty's top commitment to fight depletion of water bodies. It has pledged to ensure that no untreated wastewater and chemical effluent is disposed to the environment.

Waste Management

Soorty has developed a standard method to monitor waste sector progress, performance, improving reporting and identifying priority actions. Best waste management practices are ensured in all the exterior and interior areas of the factory and manufacturing sites.

Other major environmental policies of Soorty are related to biosolids management and chemical management. Soorty has designed biosolids management program which outlines liquids and solids processes at the facility and how biosolids are managed to meet the legal requirements. Soorty's chemical management system aims to prevent environmental risks associated with hazardous chemicals, improve human health and preserve environmental resources.

Environmental trainings are a crucial part of Soorty's health and safety, environmental conservation and energy management policies. Through these trainings, employees are equipped with skills and methodologies to handle new technologies, chemicals and waste, conserve water/harvest rainwater and strategic energy management.

GHG Mitigation

The need of making more environmentally conscious business decisions is well understood by Soorty. At its highest level of commitment, Soorty was enlisted as a signatory at the Science Based Targets Initiative (SBTi) to develop 1.5°C aligned science-based emissions reduction targets to fight against climate change. The targets of Soorty are also validated by SBTi and Soorty has committed to reducing absolute Scope 1, 2 and 3 GHG emissions by 54.6% by 2033 from a 2021 base year. Soorty also signed the REPowerEU Plan to support European Commission's Green Deal. Soorty became one of

the top 5 founding members of the NetZero Coalition launched by the Pakistan Environment Trust (PET). This coalition shows the textile industry's high commitment towards producing clean energy and delivering net zero GHG emissions.

CSR (CORPORATE SOCIAL RESPONSIBILITY) POLICIES

Soorty Enhancing Women's Services (SEWS) program aims to facilitate capacity building of female employees and sensitization to ensure female empowerment and create safe working environment.

Furthermore, Soorty PRISM is designed to increase inclusion of people from diverse communities and people with disabilities to enhance their potential for work. Soorty also partnered with NOWPDP (Network of organizations Working with People with Disabilities) and trained 44 persons with hearing and speech disability in the art of denim grinding and distortion in the laundries. The company has also worked with Gender Interactive Alliance (GIA) and Blue Ribbon to support vocational training, food security, health and inclusion of transgender and non-binary persons in the workforce.

Soorty Enterprises complies with all the relevant international and national laws and conventions on labor rights. It strongly condemns child and forced labour. Also, it ensures effective monitoring of employee work hours, respects and practices lawful rights of freedom of association and collective bargaining of the employees and prohibits gender discrimination. Further, the quality standards of workplace health and safety are ensured employee benefits are awarded without any discrimination.

12. Business Cases of Green Finance in the Region

13. Risk Matrix for Banks to Assess Green Finance

Environmental Risk Management (EnvRM) is a systematic approach for identifying, assessing, mitigating, and monitoring environmental risks associated with business operations. It integrates procedures to evaluate and manage environmental and climate change risks within the credit risk management processes of banks and Development Finance Institutions (DFIs). EnvRM helps these institutions minimize foreseeable environmental risks while providing protection against unforeseen risks. By maintaining acceptable levels of environmental exposure, EnvRM also strengthens client relationships through environmentally beneficial transactions. Effective EnvRM can reduce non-performing assets, create new financing opportunities, and enhance the financial performance of banks and DFIs.

Although the magnitude and complexity of environmental and governance risks continue to grow, creating a risk assessment matrix doesn't have to be a complicated process.

Aside from specific software or ready-made templates, a simple spreadsheet tool such as Google Sheets or Microsoft Excel can be used to create the risk matrix. There are four basic steps to making a risk assessment matrix:

Step 1: Identify the Risk Landscape

Because the magnitude and complexity of ESG risks continue to grow, it's essential that Relationship Manager develop a comprehensive picture of the total risk landscape. Project risks vary in category and remediation strategy compared to enterprise-level or macro-level risks. The Bank teams should tailor their focus based on the scope of their risk assessment.

To begin the assessment process, the relationship manager need to hold brainstorming sessions with key stakeholders within the organization in order to develop understanding and get insights and start generating a list of ideas that will serve as the foundation of risk assessment matrix. Since risk analysis is subjective, it's vital to get a wide variety of stakeholder input — doing so minimizes the chances of missing something valuable.

Start brainstorming session by categorizing risks according to the guidelines laid down in State Bank's Environmental and Social Risk Guideline. This encompasses environmental, social and governance related issues.

Step 2: Determine the Risk Criteria

After brainstorming risks associated with the larger risk landscape, determine the criteria by which you'll be evaluating these risks. Risk assessment matrices typically use two intersecting criteria:

Likelihood: the level of probability (x-axis) the risk will occur or be realized.

Impact: the level of severity (y-axis) the risk will have if the risk is realized.

It's critical to achieve consensus on the risk criteria, as this will affect not only the way you calculate your risk matrix but also the discussions you'll have on how to mitigate your risks. Accurate measurement is the key to successful risk management.

Step 3: Assess the Risks

At this stage, assess the risks based on your risk criteria, providing a qualitative risk analysis according to a predefined scale. Most organizations use the following, three-part scale to assess severity: High risk; Moderate/Medium risk; Low risk.

A more granular approach could prove useful as well. Expanding the scale to a 5×5 matrix is common, where 1 is extremely low-risk and 5 is extremely high-risk, providing more insight into levels of severity and helping companies allocate resources more efficiently.

Commercial banks can opt to adopt either the 3×3 or 5×5 risk assessment matrix template or develop their own. Best practices require at least three categories for each of the risk's probability of occurrence and impact/severity.

Banks may also opt to give a risk a cumulative "Risk Score" which is usually derived by adding or multiplying the risk's Likelihood score by the risk's Impact score. "Weighting" is another option businesses can use to customize or adjust their risk scoring – perhaps the identified risks associated with a certain project or department take priority, and so they could be weighted heavier in a risk assessment. To avoid confusion, the bank's risk assessment matrix methodology should be formally documented in policy and procedure documents, including any weighting and any changes to the risk process or approach.

Step 4: Prioritize the Risks

Finally, compare the different risk rankings (high, medium, or low) to the risk criteria (likelihood and impact). Prioritize those risks that pose the highest likelihood and impact, and create a risk assessment plan to effectively mitigate them.

Keep in mind, the risk landscape is constantly evolving, and the risk assessment matrix should be updated multiple times a year (annually at minimum) in order to reflect the changing risk environment. Failure to update the risk assessment strategy could result in missing emerging risks that may disrupt business objectives and continuity.

How to Determine the Likelihood of a Risk Occurring

An essential component of the risk assessment matrix is determining the likelihood of a risk occurring. After all, if it is incorrectly determine the probability of a risk, the banks will be missing a critical opportunity to prevent unnecessary value losses.

Most organisations use the following five categories to determine the likelihood of a risk event:

5: Highly Likely. Risks in the highly likely category are almost certain to occur. Typically, risks with 91 percent or more likelihood fall into this category.

4: Likely. A likely risk has a 61-90 percent chance of occurring. These risks need regular attention, as they are bound to reoccur and therefore require a consistent mitigation strategy.

3: Possible. Possible risks may happen about half the time — they have a 41-60 percent chance of occurring and need attention.

2: Unlikely. Risks in the unlikely category have a relatively low chance of occurring — 11 to 40 percent. But they may still affect your business, so it's a good idea to keep an eye on them.

1: Highly Unlikely. Highly unlikely risks are exactly as they sound, with a low probability of occurring.

Example of 5x5 Risk Appraisal Matrix

The following risk coding guide example has been developed to assess the potential risk arising from lending application by the client.

Probability	Insignificant (1)	Minor (2)	Moderate (3)	Major (4)	Severe (5)
Rare (1)	VL-1	VL-2	L-3	M-4	M-5
Unlikely (2)	VL-2	L-4	M-6	M-8	MH-10
Possible (3)	L-3	M-6	M-9	MH-12	H-15
Likely (4)	M-4	M-8	MH-12	H-16	VH-20
Almost Certain (5)	M-5	MH-10	H-15	VH-20	VH-25

VL = Very Low

L = Low

M = Moderate

MH = Moderate to High

H = High

VH = Very High

Risk Category	Sub-Category	Risk Assessment	Mitigation
1. Regulatory Compliance Risk	Maintenance of EPA NOC and submission of timely reports	MH-12	- The industry requires that the client needs to comply with EPA certification all the time. - There are instances where client has not submitted reports to EPA in time which poses moderate risk that NOC may be revoked. <i>A covenant may be added that client need to maintain its NOC during</i>

			<i>loan time period and shall submit the same in first week of January every year.</i>
2. Occupational Health Risk & Safety Risk	2.1 Provision of Safe Drinking water for employees	H-16	• Employees have limited access to safe and drinking water. • Drinking water filters are not replaced in time. • There is risk of water born diseases <i>Client must replace water filters bi-monthly and allocate financial resources for the provision of more safe drinking water</i>
	2.2 Employee Insurance and Registration	VL-2	• All employees are registered with labor department • The client has availed accident insurance through reputable third party.
3. Environmental Concerns	3.1 Use of Coal to meet the energy requirements	VH-20 (Due to high GHG emissions associated with coal the environmental footprint of the product produced will be higher which will be a key barrier to find client downstream especially in export market)	• Switch to cleaner fuel like biomass
	3.2 Use of Restricted chemicals in the product manufacturing	VH-20 (There are high chances of losing the business in international market if a final product (including packaging) is detected with	• Follow the ZD2HC MRSL, OEKO Tex, Blue Sign etc.

		restricted substances)	
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If the business is using a 3×3 risk matrix, the following three categories of likelihood suffice:

- 1: Unlikely. Risks in this category have a relatively low chance of occurring.
- 2: Likely. Risks in this category are predicted to occur and require a mitigation strategy.
3. Highly Likely. Risks in this category are almost guaranteed to occur and require a mitigation strategy.

Probability	Insignificant (1)	Moderate (2)	Severe (3)
Rare (1)	L-1	L-2	M-3
Likely (2)	L-2	H-4	H-6
Almost Certain (3)	M-3	H-6	H-9

L = Low

M = Moderate

H = High

An example of using a risk matrix: Suppose a bank identifies a risk of water contamination by the client. After assessment, the likelihood is determined as 'Possible,' and the impact is considered 'Major' due to potential underground water contamination resulting in loss of life and facing fine from the regulator. This risk would be plotted on the matrix in the corresponding 'Possible' and 'Major' cell, likely falling into the 'High' risk category, indicating that mitigation strategies should be developed and implemented.

Using the risk assessment matrix for risk management will reduce not only the likelihood of the risks your bank faces while assessing green finance loans but also the magnitude of their impact on operations. Effectively managing risk has always been critical for success in any business endeavor, but never more so than today. An important part of risk strategy should involve managing banks' risks by using integrated risk management software that facilitates collaboration and risk visibility to increase the effectiveness of risk management programs.

The State Bank of Pakistan has also developed a template for commercial banks while assessing the ESG risks. The primary principle is the same as discussed in earlier section which includes, identifying, evaluating, assessing and categorizing different risk while assessing Green Finance loan applications. The State Bank's ESG risk template is given as Annexure 1

14. Green Finance Challenges and Area for Improvement

15. Reference Material

Green Finance Frontiers in Pakistan: Charting the Course towards a Sustainable Future
<https://sdpi.org/assets/lib/uploads/SDPI%20-%20Green%20Financing%20-%20V7%20-%202023.pdf>

Sustainable Banking & Finance Network Toolkit: Developing Sustainable Finance Roadmaps. Developed by the IFC-facilitated Sustainable Banking and Finance Network (SBFN)

https://www.sbfnetwork.org/wp-content/uploads/2023/10/SBFN_Sustainable_Finance_Roadmap-Toolkit_Guide.pdf

Facilitation of Green Financing for Leather and Textile SMEs from Financial Institutions in Pakistan: Need Assessment Study

https://wwfasia.awsassets.panda.org/downloads/green_financing_for_leather_and_textile_enterprises_in_pakistan_1.pdf

Green Tannery Design Guidelines

https://wwfasia.awsassets.panda.org/downloads/green_tannery_report_interactive_.pdf

16. Annexures

Annexure 1

S.NO.	Question	Answer	Comments
General Risks			
1.1	Are there any legal issues associated with the client's E&S performance?	a) Client has all valid permits AND has not faced any legal claims or any serious environmental/social incident in last three years b) Client does not have all valid permits but has taken definite steps to acquire them in next six months AND/OR client has faced legal claims but has addressed or has definite plan to address all of them c) Client does not have all valid permits and has not taken any definite step to acquire them AND/OR client has faced legal claims and has no definite plan to address them d) Not applicable	Option (b)

S.NO.	Question	Answer		Comments
1.2	Have operations ever been affected by local stakeholder grievances, media or non-governmental organization (NGO) campaigns over E&S issues?	a) There is no evidence of stakeholder grievances, negative media or NGO protest b) There is evidence of stakeholder grievances, negative media or NGO protest for a particular operation AND client has taken adequate steps to address the issue c) There is evidence of stakeholder grievances, negative media or NGO protest and client has not taken any step to address the issue d) Not applicable	Option (a)	
1.3	Is project site and/or its routing likely to have impacts on ecological sensitivity present on project site and/or within an area of 5 km radius surrounding project site)?	a) No eco-sensitive areas observed b) There are a few eco-sensitive areas AND the client has taken adequate measures to mitigate the impact of their operation on the eco-sensitive areas as per regulations c) There are eco-sensitive areas observed and mitigation measures are not adequate as per regulations and the client may face legal challenge in future d) Not applicable	Option (a)	

S.NO.	Question	Answer		Comments
1.4	Does the client have robust/ adequate Environmental and Social Management system (ESMS)?	a) Client has robust ESMS, resources both people and budget to implement. b) Client does not have robust ESMS yet, however definite steps have been taken to ensure one. c) Client does not have any ESMS, neither are there any plans of setting up one. Different ad-hoc activities are carried out to manage E&S issues. d) Not applicable	Option (a)	
Environmental Health and Safety Risks				
2.1	Is there any evidence of air and noise pollution due to client's operation?	a) There is no evidence of air /noise pollution and/or all mitigation measures and monitoring systems are in place b) There is evidence of air/ noise emission AND partial mitigation measure, monitoring system is in place AND client is addressing or has a definite plan to address the remaining issues c) There is evidence of air emission/noise AND there is no mitigation measure/monitoring system in place AND client has no definite plan to address the issues d) Not applicable	Option (a)	

S.NO.	Question	Answer		Comments
2.2	Is there any evidence of water pollution due to client's operation?	a) There is no evidence of water pollution and /or all mitigation measures and monitoring systems are in place b) There is evidence of water pollution AND partial mitigation measure, monitoring system is in place AND client is addressing or has a definite plan to address the remaining issues c) There is evidence of water pollution AND there is no mitigation measure/monitoring system in place AND client has no definite plan to address the issues d) Not applicable	Option (a)	
2.3	Is there any evidence of land pollution and lack of waste handling mechanism in the project operation?	a) There is no evidence of land contamination OR all mitigation measures and monitoring systems are in place b) There is evidence of land contamination AND partial mitigation measure, monitoring system is in place AND client is addressing or has a definite plan to address the remaining issues c) There is evidence of land contamination AND there is no mitigation measure/monitoring system in place AND client has no definite plan to address the issues d) Not applicable	Option (a)	

S.NO.	Question	Answer		Comments
2.4	Are there any Climate Change related risks (flood, drought, cyclone etc.) and opportunities (GHG emission reduction) associated with the client's operation?	a) Client has a robust disaster management plan to combat climatic risks AND client has procedures in place to measure, disclose, set targets and mitigate its GHG emissions b) Client has a disaster management plan but it is not robust AND there is evidence that client has intention to measure, disclose, set targets and mitigate its GHG emissions in near future c) No disaster management plan AND no definite plan to measure, disclose, set targets and mitigate its GHG emissions in future d) Not applicable	Option (a)	
Social Risks				
3.1	Is there any evidence of occupational health & safety (OHS) risk?	a) The client does not have any OHS concern or have mitigated them adequately b) The client has some OHS concern but has taken definite steps to correct them c) The client has OHS concern in its operation and have no plans of correcting them d) Not Applicable	Option (a)	

S.NO.	Question	Answer		Comments
3.2	Are the labor and working conditions poor and breaching local regulations / standards?	a) There is proper working condition and labor practice AND there is no evidence of poor working condition or labor practice for which client may face legal challenge or labor unrest or negative media coverage or protest from activist b) There are a few evidences of poor working conditions BUT no significantly poor labor practice such as child/forced labor is present AND the client has a definite plan to improve the working condition to ensure there is no legal challenge or labor unrest or negative media coverage or protest from activist in future c) Working condition is very poor AND/OR there is presence of significantly poor labor practice such as child labor/forced labor AND client is not addressing/has no definite plan to address the issues d) Not applicable	Option (a)	

S.NO.	Question	Answer		Comments
3.3	Does the project pose a threat to Community Health, Safety and Security?	a) Presence of a robust plan for community health & safety which is developed in consultation with the local community AND there is no evidence of issues that may create nuisance/accidents/injuries to local community in future b) There is a plan for community health & safety but it is not robust or it is not developed in consultation with the community AND/OR there are a few evidences of issues that may create nuisance/accidents/injuries to local community AND the client intends to address the gaps c) Absence of a community health & safety plan AND/OR there is evidence of significant issues that can create nuisance/accidents/injuries to local community AND client has no definite plan to address the gaps d) Not applicable	Option (a)	

S.NO.	Question	Answer		Comments
3.4	Is there any evidence of community consultation with key stakeholders including indigenous people?	a) There is evidence that the client consults /engages with the stakeholders including local community, indigenous people on all relevant issues (such as rehabilitation, compensation, their expectations as the case may be) b) There is limited /inadequate consultations with the stakeholders c) No consultations with the stakeholders d) Not applicable	Option (a)	

References & Further Readings

SN	Document Name & Link	Summary of Contents
1.	State Bank of Pakistan Green Banking Guidelines (2017) Link: https://www.sbp.org.pk/sme/d/circulars/2017/C8.htm	SBP's GBG deals with the following three areas: • Risk Management for increasing financial stability through understanding, management and mitigation of environmental exposures of financing portfolios. • Business Facilitation for fostering development of 'green' market through actively tapping the emerging viable business opportunities of financing to clean energy and resource efficiency projects. • Own Impact Reduction for potential re-engineering of banks and DFIs' internal operations and procedures with a view to reducing impact on environment and society.
2.	State Bank of Pakistan's Environmental and Social Risk Management Implementation Manual 2022 Link: https://www.sbp.org.pk/sme/d/circulars/2022/CL12-Annex-1.pdf	The manual incorporate banking and DFI sector feedback after the releases of GBGs in 2017. Contains topics on 1. Environmental and social management systems for banks and DFIs 2. Implementing Systems with stakeholders (Banks & DFIs) feedback 3. Regulatory Reporting
3.	Annexure II: SBP's Environmental & Social Due Diligence (ESDD) checklist for SMEs/Corporate Finance Projects	This file contains 3 excel sheets with a User Guideline, ESDD Checklist and a Glossary of Terms. The check list is only indicative and can be improved by individual banks and key

SN	Document Name & Link	Summary of Contents
	Link https://www.sbp.org.pk/sme/d/circulars/2022/CL12.htm	stakeholders by incorporating latest policy, rules and regulations. The document also gives the user and hands-on practice on conducting ESDD for a project.
4.	Annexure III: SBP's Green Banking Monitoring & Evaluation (M&E) Reporting Template Link https://www.sbp.org.pk/sme/d/circulars/2022/CL12-Annex-3.pdf	These contains the Key Performance Indicators (KPIs) for Green Banking Monitoring and Evaluation Reporting Template for Banks and MFIs.
5.	SBP's Frequently Asked Questions (FAQs) on Environmental & Social Risk Management (ESRM) on Linding Link: https://www.sbp.org.pk/sme/d/circulars/2022/CL12-Annex-4.pdf	This is a very useful document which list frequently asked questions on ESRM.
6.	The Pakistan Climate Change Act 2017 Link: https://pakistancode.gov.pk/english/UY2FqaJw1-apaUY2Fqa-apaUY2JxZpc%3D-sg-iiiiiijiiiii	A comprehensive act involving both federal and provincial governments to take measures for adaptation and mitigation to protect lives and livelihood from adverse effects of climate change. To establish a Pakistan Climate Change Council which will consist of federal ministers for the divisions of climate change, finance, agriculture, food security and research planning,

SN	Document Name & Link	Summary of Contents
		planning development and reform, petroleum and natural resources, science and technology, water power and foreign affairs. Chief ministers of the provinces, minister-in-charge of the department allocated subject of environment in provinces. To establish a Climate Change Authority with a permanent member on Climate Finance to oversee all the finance related policies and actions for Governments, donors and commercial banks. To establish a climate change Fund
7.	National Climate Change Policy 2021, Government of Pakistan, Ministry of Climate Change Link: https://www.mocc.gov.pk/SiteImage/Policy/NCCP%20Report.pdf	The policy documents Pakistan's vulnerability to climate change threats and proposes policy for Climate Change Adaptation, Biodiversity, Other Vulnerable Ecosystems, Disaster preparedness Policy Measures, Climate Change Mitigation, Capacity building and strengthening, International and regional cooperation, Climate Finance, Technology Transfer and Policy implementation mechanisms.
8.	National Hazardous Waste Management Policy 2022, Government of Pakistan, Ministry of Climate Change Link: https://www.mocc.gov.pk/SiteImage/Policy/National%20Hazardous%20Waste%20Management%20Policy%202022.pdf	The policy outlines the policy imperatives for the Hazardous Waste Management in Pakistan. The document contains detail description of the issue of hazardous waste and its management, transboundary movement of hazardous waste, environmentally sound and efficient HWM systems, licenses Monitoring and reporting mechanism under ESM of hazardous waste, Human Resource Development, Research, OHS and Information Dissemination, Sustainable Financing Mechanism, and Implementation Arrangements for HWM Policy.
9.	National Clean Air Policy 2023, Government of Pakistan, Ministry of Climate Change	The policy starts with discussion on Air Pollution and then describe Legal framework and policy environment for air quality in Pakistan. It then delve into policy goal, objective and

SN	Document Name & Link	Summary of Contents
	Link: https://www.mocc.gov.pk/SiteImage/Policy/NCAP%20(28-02-2023).pdf	prioritization of air quality targets. Finally it gives policy recommendations and implementation mechanism to achieve the goals and objectives.
10.	National Adaptation Plan 2023, Government of Pakistan, Ministry of Climate Change Link: https://www.mocc.gov.pk/SiteImage/Policy/NAP%20Digital-compressed.pdf	The National Adaptation Plan introduces climate risks and vulnerabilities in Pakistan with historic and future risks. It then the process, vision and principles for NAP in Pakistan. In the end it sets the adaptation priorities and an implementation strategy to achieve the priorities of the plan.
11.	Climate Budget Statement, Annual Budget Statement, Ministry of Finance, Government of Pakistan Link: https://finance.gov.pk/budget/Budget_2024_25/Annual_Budget_Statement.pdf	This is a rather new exercise conducted at ministry of finance to streamline federal budget towards green budget by incorporating programmes and plans toward adaptation and mitigation of adverse impacts of climate change in Pakistan.
12.	Chapter 17, Climate Change, Economic Survey of Pakistan, Ministry of Finance, Government of Pakistan. Link: https://www.finance.gov.pk/survey/chapter_24/Economic_Survey_2023_24.pdf	The chapter documents the importance of Climate Change into the mainstream economy. It documents the adverse impact of climate change related disasters in the country and proposes climate mitigation and adaptation plans in Pakistan. It has also discuss the Adaptation Fund Project which engages Government of Pakistan with UN-Habitat for climate financing.
13.	Punjab Climate Change Policy 2017 and Punjab Provincial Climate Change Action Plan 2021	The policy document of the Punjab Government regarding climate change document the vision and mission of the Punjab Government with recommendations and the proposed action plans. While the Action Plan proposes concrete steps to be taken by the Government of Punjab.

SN	Document Name & Link	Summary of Contents
	Link 1: https://epd.punjab.gov.pk/system/files/PCCP%20Draft%20%28internatl%29_0.pdf Link 2: https://epd.punjab.gov.pk/system/files/Final%20PUNJAB%20ACTION%20PLAN.pdf	
14.	Sindh Climate Change Policy 2022 Link: https://docc.sindh.gov.pk/files/DoCC/Documents/Sindh%20Climate%20Change%20Policy%202022%20(Final).pdf	Sindh Climate Change policy document the situation of climate change in Sindh with details. It then defines the Goals, Objectives of the policy with actions on adaptation and mitigation. In the end, the policy noted the monitoring and development of implantation framework.
15.	Khyber Pakhtunkhwa Climate Change Policy 2022 Link: https://epakp.gov.pk/wp-content/uploads/2022	KP's Climate change policy introduces the climate change effects in the province with the objectives of the current climate change policy. It then covers the impact of climate change in KP over the years and introduces the need for the policy to offset the effects of climate change devastation. It then delve into Adaptation and Mitigation measures with financing through the KP Government. It then proposes measures with an implementation framework.
16.	UNDP Sustainable Development Goals (SDGs) Link: https://sdgs.un.org/goals Pakistan's SDGs Dashboard	There are a total of 17 SDG Goals to which Pakistan is signatory. The following goals are directly related to climate change and environment. An understanding of these is necessary to evaluate green financing and contribution to achievement of these goals. SDG 6: Clean Water & Sanitation SDG 7: Affordable and Clean Energy

SN	Document Name & Link	Summary of Contents
	Link: https://dashboards.sdgindex.org/profiles/pakistan	SDG 11: Sustainable Cities and Communities SDG 12: Responsible Consumption and Production SDG 13: Climate Action SDG 14: Life Below Water SDG 15: Life on Land
17.	World Wide Fund (WWF) for Nature in Pakistan Link: https://www.wwfpak.org/	The WWF-Pakistan is a leading environmental conservation organization in Pakistan, established in 1970 as part of the global WWF network. The organization has extensively worked on environment protection and many useful documents on its website can be viewed to improve understanding of Green Finance for Banks/DFIs in Pakistan.
18.	Various Reports/Publications of Cleaner Production Institute (CPI) on interventions in the Pakistan's Textile Sector. Link: https://www.cpi.org.pk/Know_CTP_textile.aspx	It is a very useful site to understanding the possibility of cleaner production process in the Textile Industry with business cases. This is important in terms of Green Businesses Facilitation activities as given in the SBP's Green Banking Guidelines.
19.	World Bank's IFC Link: https://documents.worldbank.org/en/publication/documents-reports/documentdetail/099014506142217942/idu0666a387e09abb047a80a5e303e3c026c11a5	Pakistan - Country Progress Report : Supplement to the 2021 Global Progress Report of the Sustainable Banking and Finance Network.
20.	WWF & ILO	Facilitation of Green Financing for Leather and Textile SMEs from Financial Institutions in Pakistan.

SN	Document Name & Link	Summary of Contents
	Link: https://switch-asia.eu/resource/facilitation-of-green-financing-for-leather-and-textile-smes-from-financial-institutions-in-pakistan/#:~:text=Within%20the%20ILES%20project%2C%20the,actors%20to%20implement%20and%20monitor	
21.	UNDP Pakistan Link: https://www.undp.org/sites/g/files/zskgke326/files/2023-09/policy_brief_-_greening_the_financial_system_of_pakistan_2023.pdf	Greening the Financial System of Pakistan