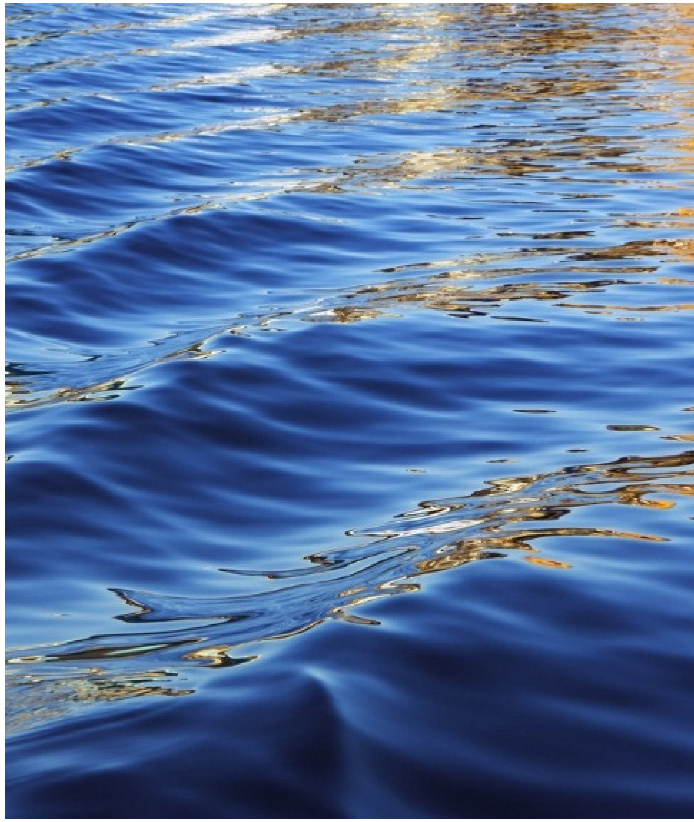
Carbon Markets and Role of Private Sector

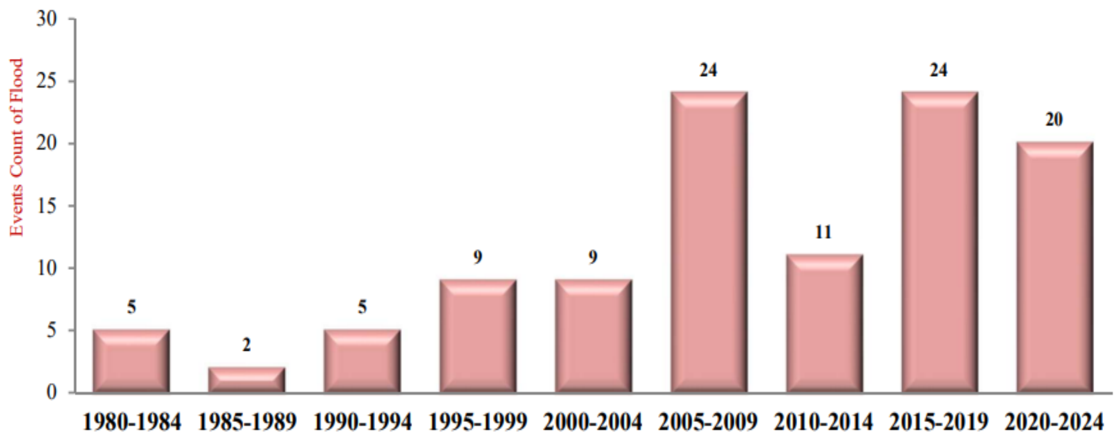
Amer Hassan
Director Financial Stability Department
State Bank of Pakistan



Pakistan is among the most vulnerable countries to climate change

- **Escalating climate risks:** Recent floods and the floods of 2022 (in 2022, losses of $30 bln, affected 33 mln people).*
- **Funding Needs:** $348 bn total investment from 2023 to 2030. Avg annual climate finance received in the past decade is $1.4-2.0 bn.**

Fig-1: Number of Flood Events in Pakistan (1980-2024)



Source: EM-DAT, The International Disaster Database

- **Huge Potential for Private Sector** to invest in high-return green projects
- **Carbon Markets & Private Sector** can help in mobilizing funds for “dual-benefits” (i.e. mitigating emissions & improving resilience/adaptation) in a mutually beneficial manner

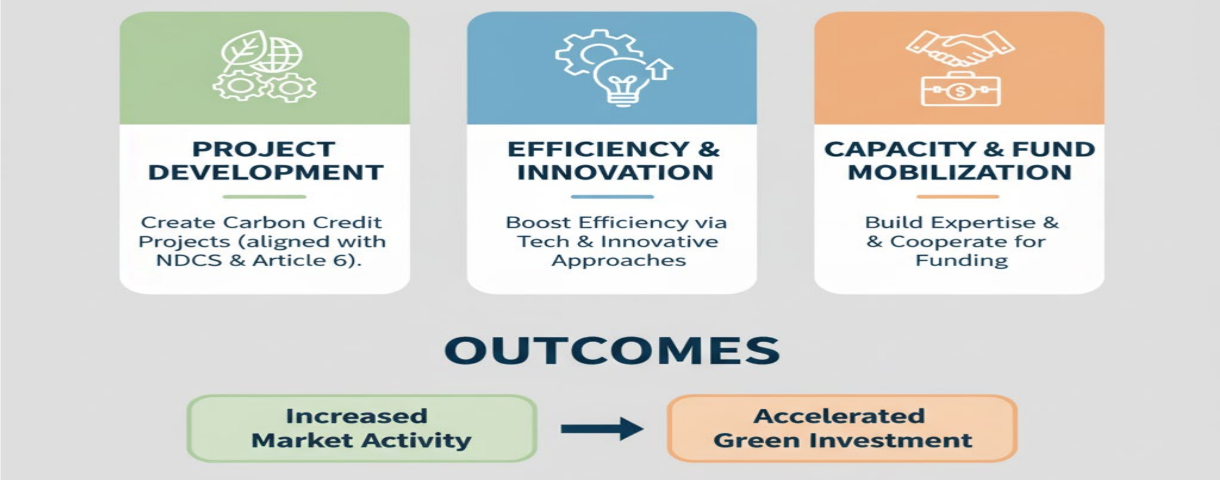
Climate Financing Composition	
Private - Domestic	5%
Private - International	26%
Public - Domestic	11%
Public - International	58%

Source: United Nations Pakistan, 2025

* Pakistan Economic Survey 2024-25 ** United Nations Pakistan, 2025

Role of Stakeholders in Fostering the Carbon Markets - Overview

- Obligated Parties and Private Sector:



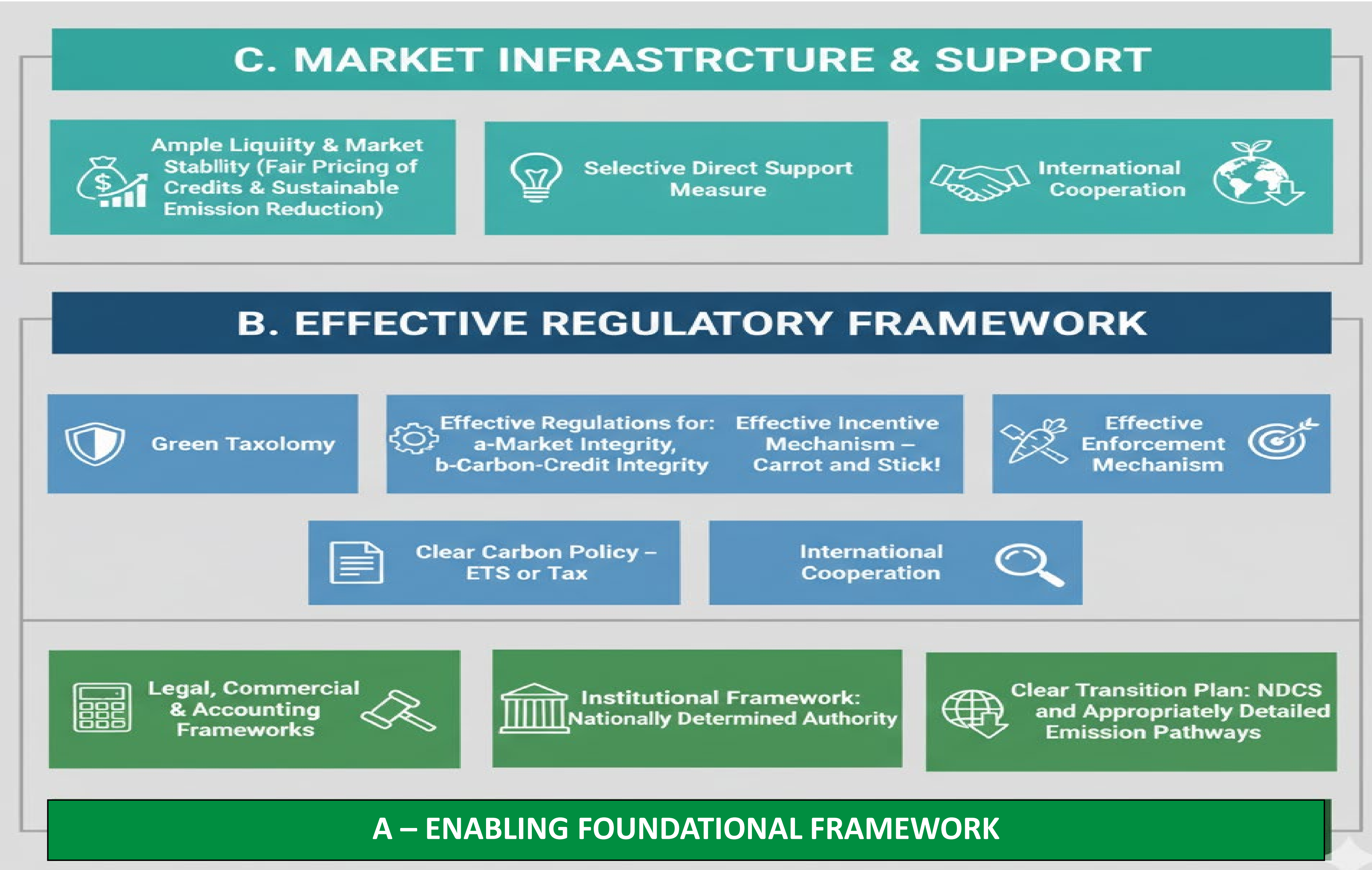
- Financial institutions and investors:

Role of Stakeholders in Fostering the Carbon Markets

- **Obligated Parties and Private Sector:**
  - Develop marketable carbon credit projects in line with NDCs and Article 6
  - Enhance efficiency through modern technologies & innovative approaches
  - Develop expertise and cooperate with domestic & international stakeholders to mobilize funds
- **Financial institutions and investors:**
  - Provide effective green capital-market instruments & green loans;
  - Provide Market Liquidity & effective risk-management solutions
  - Underwrite carbon credits & green bonds to enhance their marketability
  - Brokerage and related services.

What Private Sector needs to effectively perform its role - Overview

(i.e. role of policy makers & regulators) ……



…What Private Sector needs to effectively perform its role
(i.e. role of policy makers & regulators) ……

A. Enabling Foundational Framework:

- legal, commercial, accounting & auditing frameworks
- Institutional framework: nationally determined authority
- Clear transition plan – NDCs and (preferably) appropriately detailed emission pathways

B. Effective Regulatory Regime:

- Regulations to ensure market integrity (protection of investors; efficient, fair & transparent market structure; & mitigation of systemic risk)
- Regulations to ensure carbon credit integrity
- Green taxonomy – defining key aspects for ensuring integrity & avoiding green washing
- A clear carbon policy (ETS or Carbon Tax) and policy Certainty.

…. What Private Sector needs to effectively perform its role

- Effective incentive mechanism — Carrot and Stick should be attractive and dissuasive enough!
- Effective enforcement: to ensure integrity of carbon credits & avoid double counting

C. Market Infrastructure & Support

- Liquidity & market stability: ensure fair pricing of carbon credits that supports emission reduction on a sustainable basis
- International cooperation – to both improve market liquidity and avoid double counting
- Selective & prudently-designed direct policy support may help in guiding the investments towards priority sectors e.g. SBP refinance schemes channeled $335 mln to over 4,500 renewable energy projects (~2,000 MW).

Delta Blue Carbon, one of the largest blue carbon projects: A leading example of Public-Private Partnership

- Delta Blue Carbon (started in 2015) will restore ~350,000 hectares of mangroves on the delta of river Indus and remove ~120 MtCO2e over 60 years
- Registered with Verra's Verified Carbon Standard (VCS).
- Project leverages technology & innovation provided by private partners (M/s Inverto Earth) – advanced digital MRV, tools like drone-based LIDAR and multispectral sensing to gather high-resolution biomass data
- Partnership with IUCN on community payments to ensure sustainable local benefits
- A private firm (M/s Trafigura) is marketing partner, providing carbon credit pre-finance.

Mangroves coverage in Indus Delta

LiDAR Scanner Tree Segmentation

Some Other Notable Projects in Pakistan

- **Mehmood Booti Dumpsite:**
  - Pakistan's first locally registered carbon credit project, operationalizing Pakistan's carbon market infrastructure
  - A methane-capture power plant that will cut emissions of one million tons over 15 years and convert the area into urban forest & solar park
- **Lakhodair landfill (Lahore):**
  - Being developed as an Article 6 pilot project for G-2-G carbon trade.
  - Will develop a methane-collection system to inject gas into the city's natural gas supply network, displacing use of fossil fuel
  - It will contribute directly to Pakistan's NDC, covering roughly 5% of the national target
- **Sapphire Wind Farm:** a private initiative, under clean development mechanism (CDM) and Gold Standard, generate annual emission reduction of 78K tCO_2

Thank You!

Pakistan's Carbon Market Policy

- **Pakistan Policy Guidelines for Trading in Carbon Markets (2024)** — three core pillars
- **Scope** — cover both VCM and CCM
- **Priority Sectors** — high emissions reduction potential e.g. energy, agriculture, waste management, forestry.
- **Oversight and Governance:**
  - MoCC is Designated National Authority
  - Carbon Market Working Group
  - National Carbon Registry
  - MRV system consistent with transparency obligations under Paris Agreement.
- **Parameters of Project Qualification:**
  - Promotion of nature-based carbon projects
  - Compliance with cooperative approaches
  - Adherence to Article 6
  - Preferential authorization for shorter crediting period