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4TH PAKISTAN CLIMATE CONFERENCE '26

THE CLIMATE ACCELERATION

FROM COMMITMENT TO COMPETITIVE EDGE IN THE DECISIVE DECADE

Showcasing Private Sector's Climate Wins in Pakistan



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Introduction

The Climate Acceleration: From Commitment to Competitive Edge in the Decisive Decade

This report is based on the proceedings of the **4th Pakistan Climate Conference (PCC),** held on February 9, 2026, in Karachi. The conference, organized by the Overseas Investors Chamber of Commerce and Industry (OICCI) and supported by the Sustainable Development Policy Institute (SDPI) as the knowledge partner, brought together key stakeholders from the public and private sectors to advance dialogue and accelerate actionable responses to climate change.

While previous dialogues focused on policy formation, this report serves as a technical roadmap for transitioning Pakistan's climate ambition into bankable economic action; prioritizes the mobilization of private capital, the integration of frontier technologies like AI, and the alignment of Pakistan's industrial sector with global regulatory shifts such as the EU's Carbon Border Adjustment Mechanism (CBAM).

Building on the foundations of the 3rd Conference, this edition provides a deep dive into innovative financing instruments, including the Green Panda Bond and blended finance models, designed to bridge Pakistan's $50 billion annual funding gap. Furthermore, it evaluates the socio-economic impacts of climate-induced displacement and provides strategic pathways for industrial decarbonization, blue economy exploration, and mandatory ESG disclosures. By synthesizing insights from global leaders and local industry giants, this document outlines a cohesive strategy for the OICCI and the Government of Pakistan to secure a competitive, low-carbon, and climate-prosperous future.

The report further recognizes the sustainability leadership of OICCI member companies, many of which are contributing to the United Nations Sustainable Development Goals (SDGs). These efforts were acknowledged through the OICCI 2nd Climate Excellence Awards 2026, which celebrated outstanding initiatives across six categories reflecting innovation, commitment, and measurable impact.



THE STRATEGIC ECONOMIC CONTEXT

Existential GDP Risk

Socio-Economic Vulnerability

COP30 & NDC Integration



BANKABLE FINANCE & INDUSTRIAL TRANSITION

Capital Mobilization

Global Trade Resilience

Future-Proof Energy



RESILIENCE, TECH & CORPORATE ACCOUNTABILITY

Frontier Technology & Nature

Standardized Accountability

Market-Based Way Forward

This report reaffirms the vital role of the private sector in shaping a climate-smart future. We hope it will serve as a useful reference for policymakers academia, business leaders, and climate advocates alike.

Disclaimer

The views and recommendations presented in this report are based on discussions and submissions from participants at the 4th PCC 2026. It is not meant to represent the position or opinion of the OICCI or its members.

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Glimpses from the 4th Pakistan Climate Conference 2026




















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SUSTAINABILITY JOURNEY AT


WELCOME









Mr. Yousaf Hussain

President, OICCI and CEO Faysal Bank

For Pakistan, the "age of competition" is now defined by the ability to govern climate risk through a unified National Economic Execution Plan. To meet NDC 3.0 commitments requiring $565.7 billion by 2035, the financial sector must move with urgency to institutionalize the Pakistan Green Taxonomy and expand Shariah-compliant green portfolios. While global regulations like the EU-CBAM mandate supply chain decarbonization, they also serve as a catalyst for a "Green Industrial Corridor," where clean energy and circular models drive sustainable growth. With momentum building through the World Bank's $20 billion Country Partnership Framework and the upcoming Green Panda Bond, Pakistan is ready to channel international capital into bankable, transparent projects.

Mr. Muhammad Aurangzeb

Federal Minister for Finance and Revenue
Government of Pakistan



Climate change poses an existential threat to Pakistan, evidenced by the increasing frequency and intensity of catastrophic events, such as the transition from localized flooding in 2022 to disasters affecting all provinces and three river systems in recent cycles. While robust frameworks like the National Adaptation Plan, Climate Prosperity Plan, and Green Taxonomy are in place, the strategic focus must shift decisively from policy design to execution. The primary challenge is not a scarcity of capital, but the inability to operationalize available funds due to bureaucratic bottlenecks and prolonged accreditation delays. Stakeholders must better utilize existing multilateral funding while prioritizing knowledge transfer, data integrity, and institutional governance from global operations to build the necessary capacity for a climate-resilient economy.



Ms. Aisha Humera

Federal Secretary
Ministry of Climate Change and Environmental Coordination

Pakistan's strategic transition toward a "green growth" economy is anchored by the NDC 3.0 roadmap, targeting a 50% emissions reduction by 2035 through private sector engagement and technology transfer. Having exceeded previous renewable energy targets, the Ministry is now prioritizing essential enablers—climate finance, data systems, and institutional strengthening—to convert policy ambition into measurable implementation. By intentionally investing in green skills and nature-based solutions, Pakistan is positioning its industrial sectors to capitalize on green technologies, ensuring that national industrial growth yields products that remain globally competitive.



Mr. Jason Avanceña

Senior Vice President, OICCI and CEO
Nestlé Pakistan

Climate resilience has become the baseline for economic survival, as the "cost of inaction" is no longer a luxury the private sector can afford. For the OICCI, the mandate is to lead a low-carbon transition that ensures Pakistan remains a competitive destination for global capital. Nestlé is driving this systemic shift by moving beyond pilot projects to large-scale industrial changes, including significant investments in renewables and the "Caring for Water" initiative, which saves billions of liters of water through smart moisture sensors and drip irrigation. To secure the $348 billion in climate finance needed by 2030, businesses must shift from individual CSR projects toward collective ESG integration, transforming global green trade policies like the EU-CBAM into incentives for modernizing exports and establishing a "Green Industrial Corridor."

Mr. Musadik Malik

Federal Minister
Ministry of Climate Change and Environmental Coordination



The climate crisis has evolved from a peripheral environmental issue into a severe human security and macroeconomic emergency, demanding a national response intensity equivalent to the fight against terrorism. With a human toll that already surpasses past conflicts, claiming 6,000 lives and displacing over 40 million people across recent flood cycles, climate change is now the primary driver of fiscal volatility in Pakistan. While the nation targets growth rates of 3–4%, catastrophic floods frequently wipe out nearly 10% of GDP, erasing years of progress in a single season. From record 53°C heatwaves to the accelerated melting of over 13,000 glaciers, this crisis is an existential economic challenge that necessitates a "whole-of-government" approach to secure Pakistan's future. We must move beyond descriptive loss narratives toward predictive survival and bankable adaptation strategies. This is no longer a corporate social responsibility exercise; it is a battle for our economic survival



Mr. Charles Yu

Climate Finance and Investment Specialist
UNDP Regional Bureau

To position Pakistan as a leading frontier market for climate investment, the national strategy must transition from a risk-averse narrative to a first-mover advantage. The primary constraint to scaling action is not merely capital availability, but the coordination, sequencing, and risk allocation between institutional businesses and public bodies. Pakistan should move beyond standalone pilots toward programmatic pipelines that aggregate projects into standardized, "plug-and-play" investment blocks. By shifting the focus of risk disclosure from simple compliance to a strategic tool for capital access, the country can transparently highlight its global impact and attract the large-scale private and philanthropic capital necessary for a resilient industrial and energy transition.

SECTION 1

STRATEGIC CONTEXT



THE GLOBAL CLIMATE CRISIS

KEY FACTS

The World Meteorological Organization (WMO) has confirmed 2025 as one of the three warmest years on record, with the last 11 years (2015–2025) now ranking as the hottest ever recorded globally.[1] Despite the cooling influence of La Niña, surface temperatures averaged **1.44°C** above pre-industrial levels, while the 2023–2025 period marked the warmest three-year stretch in history at **1.48°C** above the baseline. This atmospheric warming is compounded by unabated ocean heating; in 2025 alone, the global upper 2000m ocean heat content increased by approximately **23 zettajoules**, an energy surge equivalent to 200 times the world's total electricity generation in 2024. Regionally, the North Indian Ocean ranked among its top three warmest historical conditions, intensifying localized risks for Pakistan and underscoring the urgent need for "bankable" adaptation strategies and early warning systems to mitigate increasingly frequent extreme weather events.

Climate Change as an Existential Economic Threat:

Pakistan's economic landscape is increasingly dictated by climate-driven disruptions, which have evolved from isolated environmental events into systemic macroeconomic shocks. While Pakistan contributes **less than 1%** to global greenhouse gas emissions, the nation is consistently ranked among the top ten most vulnerable countries globally. Technical assessments from international financial institutions indicate that climate change is no longer a peripheral risk but a central factor in Pakistan's fiscal volatility, directly impairing the country's ability to maintain a stable growth trajectory and debt sustainability.

Average Annual Loss (AAL):

According to the **Asian Development Bank (ADB),** Pakistan faces average annual economic losses exceeding **$2 billion**[2] due to climate-related disasters, which accounts for approximately **0.6% to 1% of its GDP** depending on the severity of the monsoon and heatwave cycles .

The 2022 Catastrophic Impact:

The **World Bank's Post-Disaster Needs Assessment (PDNA)** verified that the 2022 floods alone resulted in over **$30.1 billion**[3] in total damages and economic losses (approx. **9% of FY22 GDP).** This event highlighted a "Growth-Loss Gap" where localized disasters can erase nearly a decade of developmental gains in a single season.

Reconstruction vs. Development:

Verified data indicates that reconstruction needs following major climate shocks now exceed **$16 billion**[4]**,** a figure that competes directly with the federal development budget and increases the national debt burden.

Fiscal Risk Categorization:

The **Government of Pakistan's Finance Division** has officially designated climate change as a **"Severe Macroeconomic Threat"** in its latest Fiscal Risk Statement, noting that climate-induced inflation and supply chain disruptions add a permanent premium to the cost of doing business.

Figure 1: Economic Impact of Climate Change on Pakistan

1 https://wmo.int/news/media-centre/wmo-confirms-2025-was-one-of-warmest-years-record
2 https://www.dawn.com/news/1906379
3 https://www.worldbank.org/en/news/press-release/2022/10/28/pakistan-flood-damages-and-economic-losses-over-usd-30-billion-and-reconstruction-needs-over-usd-16-billion-new-assessme
4 https://www.brecorder.com/news/40218610/pakistan-needs-billions-for-flood-recovery-un-urges

Socio-Economic Impact of Climate Change:

The climate crisis in Pakistan has evolved beyond an environmental challenge into a severe human security emergency, characterized by large-scale involuntary migration and the erosion of social stability. Recent catastrophic weather events, including the 2025 monsoon floods and intensifying heatwaves, have triggered a cycle of "permanent displacement" for millions. Unlike traditional disaster recovery, the increasing frequency of these shocks prevents vulnerable populations from rebuilding their lives, leading to a systemic collapse of rural livelihoods and a growing influx of climate refugees into already strained urban centers.

Magnitude of Internal Displacement:	Since the 2022 floods, which triggered a record **8.2 million** internal displacements, the trend has remained critical; by September 2025, over **6 million**[5] people were forced to flee their homes due to severe riverine flooding in Punjab, Khyber Pakhtunkhwa and Gilgit.
The Educational Breakdown:	Climate disasters have emerged as a primary barrier to literacy, with the destruction of schools and their conversion into temporary shelters contributing to an estimated **2 million**[6] children remaining out of school nationwide.
Health and Labor Productivity Loss:	Severe heatwaves and disrupted sanitation systems during floods have triggered widespread outbreaks of waterborne diseases, reducing labor productivity in the agriculture and informal sectors by an estimated **15–20%** during peak seasons.
Systemic Poverty and Food Insecurity:	The 2025 floods destroyed over **2.2 million**[7] hectares of cropland, pushing approximately **11 million** people into acute food insecurity (IPC Phase 3 and above) and erasing the economic progress of rural households.

Figure 2: Impact of Climate-Induced Displacement

ENVIRONMENTAL CHALLENGES IN PAKISTAN

Beyond the immediate socio-economic shocks, Pakistan is grappling with deep-seated environmental degradation that poses a permanent threat to its productive capacity and public health. The annual cost of this degradation is estimated at approximately **6% of GDP (roughly Rs. 365 billion)**[8], driven by systemic issues such as soil erosion, inadequate sanitation, and alarming pollution levels. According to the 2025 Air Quality Life Index (AQLI), the average Pakistani resident is currently exposed to particulate pollution levels that reduce life expectancy by 3.3 years. The country remains a global hotspot for the "**smog emergency,"** with 2025 data showing that the national population-weighted average PM2.5 concentration is 63 µg/m³, a level 12.6 times higher than the World Health Organization (WHO) safety guideline of 5 µg/m³. This crisis is most acute in the urban-industrial corridors; in February 2026, Lahore's air quality index (AQI) reached **"very unhealthy"** zones with daily PM2.5 spikes recorded at an average of 128 µg/m³. Furthermore, Pakistan has officially transitioned into a water-stressed nation, with per capita availability now below the critical 1,000 cubic meter threshold, while forest cover remains dangerously low at approximately 5%, stripping away natural defenses against the intensifying cycle of flash floods and landslides.

NDC 3.0: Roadmap for Pakistan's Climate Ambition

Pakistan has significantly escalated its global climate commitments by submitting its **Third Nationally Determined Contribution (NDC 3.0)** in September 2025. This updated roadmap transitions from broad 2030 goals to a rigorous 2035 target, aligning Pakistan's domestic policy with the "Belém Mission" from **COP30.** The new framework emphasizes that while Pakistan is proactive in raising its own ambition, the achievement of these targets remains a shared global responsibility, requiring massive capital and technology transfers to ensure a just transition.

5 https://www.unocha.org/publications/report/pakistan/pakistan-2025-monsoon-floods-support-plan-relief-and-early-recovery-october-2025-april-2026#:~:text=By%20the%20end%20of%20September,over%2022%2C800%20heads%20of%20livestock.
6 https://www.unicef.org/press-releases/schools-more-2-million-children-pakistan-remain-inaccessible-due-devastating-floods
7 https://humanitarianaction.info/plan/1431/article/pakistan-2025-floods-support-plan
8 https://openknowledge.worldbank.org/entities/publication/825e71bf-b79e-5d27-aab5-593fa52d4155

Energy & Power Sector Transformation

- **Decarbonizing the National Grid:** Committing to a transition where 60% of all energy is derived from renewable sources by 2030, supported by a complete moratorium on new coal-fired power plants.
- **Capacity Scaling Targets:** Aiming to reach an installed capacity of 38.5 GW of renewables and 43.2 GW of total clean energy by 2035 to ensure long-term energy security.

Transport & E-mobility Revolution

- **Market Penetration Goals:** Achieving 30% penetration of electric vehicles (EVs) for all new passenger vehicles and heavy-duty trucks by 2030, with a long-term goal of 90% electrification by 2040.
- **Urban Fleet Modernization:** Implementing the phase-out of diesel-based public transport in major urban centers like Karachi and Lahore in favor of high-capacity electric BRT fleets.

Agriculture, Forestry & Land Use (AFOLU)

- **Ecosystem Restoration:** Executing "Recharge Pakistan" and nature-based solutions to sequester 500 MtCO2e by 2040 through the restoration of 100,000 hectares of forest reserves.
- **Climate-Smart Resilience:** Expanding national forest cover by 150% and integrating climate-resilient seeds to protect the livelihoods of the 43% of the labor force dependent on agriculture

Industrial Process & Waste Management

- **Emissions Abatement Targets:** Reducing industrial emissions by 35 MtCO2eq by 2030 through upgraded audit protocols and the adoption of circular economy practices in the textile and cement sectors.
- **Trade Alignment:** Standardizing industrial energy management and recycling frameworks to maintain global competitiveness under EU-CBAM international trade standards.

Figure 3: Pakistan's NDC 3.0 sectoral roadmap

THE NATIONAL POLICY LANDSCAPE

Pakistan has transitioned from a phase of fragmented policy design to a cohesive, investment-ready regulatory ecosystem. By synchronizing the **National Adaptation Plan (NAP)** with the Pakistan **Climate Prosperity Plan (CPP),** the government has established a unified roadmap that converts climate vulnerability into a **"prosperity engine."** This integrated landscape is designed to provide a clear, bankable pipeline for international investors while institutionalizing climate resilience within the national budget and development framework.

Synergizing the NAP and Climate Prosperity Plan (CPP)	Institutionalizing Climate Action in National Governance	Long-Term Strategic Partnerships
The Strategic Adaptation Mandate: The National Adaptation Plan (NAP), approved in 2023, provides the foundational framework for building socioeconomic and environmental adaptive capacity through ten guiding principles, including nature-based solutions and climate-smart municipal services.	**Climate Budget Tagging (CBT):** Under the **IMF's Resilience and Sustainability Facility (RSF),** Pakistan successfully operationalized the CBT tool in the **FY2025-26 Budget,** ensuring all Public Sector Development Programme (PSDP) projects are systematically categorized by their relevance to climate goals.	**World Bank Country Partnership Framework (FY2026-35):** A new decade-long, **USD 20 billion** partnership has been launched to anchor these national plans, prioritizing selective, large-scale investments in reducing "learning poverty" and increasing flood resilience.
The Ten-Year Investment Blueprint: Complementing the NAP, the National Climate Finance Strategy serves as the primary investment roadmap, identifying an estimated USD 348 billion requirement by 2030 to bridge the gap between climate resilience ($152 billion) and deep decarbonization ($196 billion).	**Integrated Disaster Management:** To address past execution gaps, the government finalized the **National Resilience Plan 2025-2026,** which integrates scattered response systems into a single, outcome-oriented framework focused on protecting human lives and infrastructure during the 2026 monsoon season.	**Green Taxonomy & Regulatory Alignment:** The State Bank of Pakistan (SBP) and SECP have accelerated the rollout of a **National Green Taxonomy,** providing a standardized classification system to help banks and investors identify and fund truly "bankable" green projects.

Figure 4: Pakistan's Integrated Climate Policy Framework

OICCI AT COP30



Driving Private-Sector Climate Leadership

Building on its successful and active participation at COP28 and COP29, the Overseas Investors Chamber of Commerce and Industry (OICCI) continued to strengthen its climate leadership role at COP30 in Belém, Brazil, in November 2025. Representing over 200 multinational investors, the OICCI co-hosted a high-profile panel at the Pakistan Pavilion alongside the Sustainable Development Policy Institute (SDPI), titled ***"Public–Private–People Partnerships (PPPP) for Climate Resilience."*** During the summit, OICCI leadership emphasized that for climate-vulnerable nations like Pakistan, adaptation is an economic imperative rather than a corporate social responsibility (CSR) activity. The Chamber advocated for a new global climate policy architecture that incentivizes bankable projects, specifically focusing on bridging Pakistan's staggering $152 billion adaptation financing gap through innovative blended finance and risk-sharing mechanisms.

Championing the PPPP Model

OICCI introduced the **"Public–Private–People Partnership"** framework as a strategic "way forward," arguing that sustainable resilience can only be achieved when private capital and innovation are combined with public policy and community-level ownership.

Mobilizing Global Investment

By engaging with global financial leaders and the UNFCCC Secretariat, OICCI highlighted the urgent need for grant-based and concessional finance to support industrial decarbonization and protect Pakistan's export competitiveness against emerging regulations like the EU-CBAM.

Commitment to NDC 3.0

The Chamber reaffirmed its commitment to Pakistan's NDC 3.0 targets, showcasing how member companies are already integrating renewable energy and water stewardship into their core operations to meet the 50% emissions reduction goal by 2035.



M.ABDUL ALEEM

(CE/Secretary General OICCI)

Resilience that excludes the vulnerable is not resilience, it is inequality by another name. Climate adaptation must protect the dignity and livelihoods of women, rural populations, and marginalized groups who are often the first to be hit and the last to recover. The way forward is to make climate resilience bankable, inclusive, and opportunity-driven. Pakistan has the potential to mobilize projects that both safeguard the environment and stimulate the economy, from nature-based flood management to climate-smart agriculture, from resilient housing to renewable energy.



SECTION 2

MOBILIZING BANKABLE CLIMATE FINANCE



RETHINKING CLIMATE FINANCE: A GOVERNMENT-BASED APPROACH FOR PAKISTAN

Pakistan's climate transition requires a fundamental shift in how capital is mobilized, moving away from a "victim narrative" toward a proactive, governance-based investment strategy. The national climate finance need has escalated 14-fold in less than a decade, rising from $40 billion in 2016 to an estimated $565.7 Billion by 2035 according to NDC 3.0 technical assessments. To meet this annual requirement of roughly $50 billion, Pakistan must look beyond shrinking bilateral donor pools and high-interest borrowing toward lower-cost, diversified instruments that leverage regional and thematic capital markets.

Bridging the $50 Billion Gap

The involvement of the private sector is essential, as it can drive the scale required to bridge the financing gap through "bankable" projects that offer clear returns. Success depends on moving from **risk avoidance to risk-sharing,** where public sector capital is used to de-risk private investments against FX and regulatory volatility.



Figure 5: Pillars of Pakistan's Climate Finance



Dr. Abid Suleri
(Executive Director, SDPI)

Pakistan is trapped in a "climate-debt trap" where the nation must repeatedly borrow high-interest capital to repair climate-driven damages, effectively depleting the resources needed for long-term resilience. Breaking this cycle requires a fundamental paradigm shift that treats climate finance as a critical macroeconomic challenge, recognizing that our debt problem is a climate problem, and our climate problem is a debt problem. By integrating "climate defense" weightage into national resource distribution formulas like the NFC award and a unified cabinet consensus that empowers climate policy across all ministries, our ambitions will continue to outpace our actions.

CORPORATE PARTICIPATION IN CLIMATE FINANCE & TRANSITION MODELS

Pakistan's private sector is increasingly moving beyond traditional corporate social responsibility toward integrated, "bankable" climate finance models to ensure long-term industrial resilience. Standard Chartered Pakistan has pioneered the deployment of transition finance, targeting a global mobilization of **$300 billion** by 2030 to support local suppliers in decarbonizing their value chains. Unilever Pakistan has successfully utilized the State Bank of Pakistan's (SBP) climate financing facility to establish an **8.5 MW** renewable energy plant, achieving a **95%** reduction in emissions against its 2015 baseline. Nestlé has demonstrated the commercial viability of regenerative agriculture, reporting a **40%** increase in crop yields for coffee farmers through sustainable soil and water management. Simultaneously, Beko Global (Dawlance) has localized its supply chain for critical components, such as condensers, while equipping its three Pakistani manufacturing plants with **3 MW** of solar capacity to reduce its carbon footprint by **22%.** These initiatives underscore a strategic shift where corporate sustainability is treated as a competitive advantage, directly supporting national NDC 3.0 targets through measurable, high-impact investments.

Panel Discussion:

Green Profits & Real Solutions – Unlocking Climate Finance for Pakistan's Business Sector

Key Highlights of the Discussion

- **From Risk Dumping to Risk Allocation:** A primary barrier to private investment in Pakistan has been the expectation for investors to absorb FX, policy, and climate risks simultaneously; the current strategy emphasizes using public sector balance sheets to de-risk private capital.
- **The Maturity of Sustainable Finance:** The market has evolved from early-stage education to identifying direct value drivers, such as Blue Finance, debt-for-nature swaps, and credits linked to the Carbon Offsetting and Reduction Scheme for International Aviation (CORSIA).
- **Standardization through Green Taxonomy:** The implementation of the Pakistan Green Taxonomy provides the necessary "common language" to identify sustainable activities, with current assessments suggesting 40% of the banking sector's portfolio is eligible for alignment.
- **Shift to Programmatic Pipelines:** To attract large-scale international capital, Pakistan must move away from standalone pilots toward aggregated, standardized project pipelines that match the mandates of Multilateral Development Banks (MDBs).
- **Governance as a Silent Killer:** Capital scales only when clean institutional governance is visible at the project level; without it, investors assume the lowest possible threshold and frequently exit the market.





Wasif Hussain (State Bank of Pakistan):

- "The State Bank is integrating green financing into existing credit guarantee and markup subsidy schemes, such as the Prime Minister's Youth Business Loan, to de-risk investments for the end consumer."
- "While there are currently no mandatory green targets, banks are already building portfolios where 40% of financing will align with the Green Taxonomy, evidenced by the eight banks already issuing sustainability reports."



Dr. Ayesha Khan (Acumen Fund):

- "The problem is not capital scarcity; it is the lack of the right sort of capital designed to accommodate the 5-to-7-year return timelines required for climate adaptation projects."
- "We must design for the ground realities of a frontier market; assuming high liquidity and easy exit opportunities is a fundamental design flaw that keeps capital from moving."



Ms. Hina Karamat Ejaz (International Finance Corporation - IFC):

- "Climate finance is not a grant; it is an investment thesis where impact investors are looking for returns, and the greenest projects are those that are bankable, scalable, and accountable."
- "Pakistan is already a global pioneer, having executed the first-ever Sustainable Aviation Fuel (SAF) project within the IFC system, which now serves as a global model for waste-to-impact initiatives."



Mr. Hiz Jamali (Senior Climate Change Officer, Asian Development Bank - ADB):

The Asian Development Bank is a key partner in de-risking Pakistan's climate transition by providing the frameworks necessary to access diversified, low-cost capital markets. By facilitating innovative instruments like the Green Panda Bond and supporting sovereign sustainability-linked frameworks, the ADB helps Pakistan move beyond high-interest debt toward a "first-mover" advantage in the frontier market landscape. Our strategy focuses on building programmatic project pipelines and coordinated risk-sharing mechanisms that match the mandates of global investors. Through institutional alignment and technical assistance, the ADB is committed to ensuring that Pakistan's climate ambition translates into bankable, scalable infrastructure projects that secure long-term economic resilience.

Learnings and Outcomes:

- **Financing a Transition, not a Transaction:** Impact financing requires long-term partnerships, often spanning five to seven years, rather than short-term transactional arrangements.
- **Risk Sharing as Scale Factor:** Public capital must absorb early-stage and systemic risks to allow private sector capital to scale across sectors like energy, infrastructure, and water.
- **Verification Over Compliance:** Sustainability reporting must move from simple compliance to a tool for capital access, using verified data to highlight Pakistan's contribution to global climate goals.



UNDP: COORDINATING CAPITAL AND RISK FOR FRONTIER MARKET LEADERSHIP

The United Nations Development Programme (UNDP) views the current global climate financing landscape as a strategic opportunity for Pakistan to transition from a "risk-averse" narrative to a "first-mover" advantage. While bilateral donor support is shrinking and international commitments to adaptation and mitigation remain insufficient, emerging markets can attract capital by building a comparative advantage framework backed by institutional alignment. For Pakistan, which already possesses a strong ecosystem of multinational development banks, impact investors, and proactive state regulators like the State Bank, the primary constraint is not capital availability itself, but rather the coordination, sequencing, and risk allocation between institutional businesses and public bodies.

To position Pakistan as a leading frontier market for climate investment, the UNDP suggests three system-level pathways:

From Standalone Projects to Programmatic Pipelines:

Pakistan should move toward aggregating and standardizing projects with similar risk profiles to ensure replicability. This involves building a country-led investment platform where transactions and projects are matched with supportive policy and public finance to attract large-scale private and philanthropic capital.

From Risk Avoidance to Risk Sharing:

A critical shift is required to identify where public capital can absorb early-stage and systemic risks. By utilizing frameworks like the Integrated National Financing Framework (INFF), ministries can better coordinate the investment process, allowing private capital to scale once risks are shared fairly between public and private institutions.

From Compliance to Capital Access:

Data reforms must pivot from treating risk disclosure as a mere compliance burden to utilizing it as a primary financing tool. By adopting transparent reporting standards—such as TCFD, TNFD, and the UNDP-ISO SDG Impact Standards—Pakistan can clearly demonstrate where risks lie and how they are being mitigated, thereby enhancing interest from large institutional investors.

Figure 6: Strategic Framework for Pakistan Climate Resilience

By aligning these pathways, Pakistan can move beyond fragmented deployment and address the current mismatch between capital scale and real investment opportunities, ultimately securing its position as a destination for high-impact climate finance.



Mr. Samuel Rizk

(Resident Representative, UNDP Pakistan)

Pakistan's climate reality has transitioned from occasional environmental shocks to a persistent development challenge, with the economic toll of recent floods, exceeding $33 billion since 2022, placing an immense strain on national financing. For the private sector, these disruptions represent a critical business risk that raises operating costs and destabilizes supply chains. However, the scale of response required creates a major investment opportunity across sectors like energy, water, and infrastructure, as private sector development is now a core driver of lasting development. To bridge the 16% SDG financing gap, we must move beyond repairing damage toward building resilience into every investment decision. The UNDP remains committed to working with the private sector to reduce barriers, develop impact frameworks that integrate ESG into operations, and support the bankable projects necessary to mobilize essential climate finance.



CARBON MARKETS & ARTICLE 6: BRIDGING THE CLIMATE FINANCE GAP

Pakistan has officially transitioned from a passive observer to an active participant in the global carbon trade. Following the Federal Cabinet's approval of the National Policy Guidelines for Trading in Carbon Markets on December 27, 2024, the country's carbon markets became operational in early 2025. This shift is a core component of Pakistan's strategy to bridge its $348 billion climate financing gap through 2030, leveraging its renewable natural capital, to create an entrepreneurial, rather than donor-dependent, economic model.

Under Article 6 of the Paris Agreement, Pakistan is operationalizing high-integrity frameworks to enable both voluntary and compliance-based carbon trading.

Institutional Readiness:

- The Ministry of Climate Change and Environmental Coordination (MoCC&EC) is finalizing a national Monitoring, Reporting, and Verification (MRV) architecture and a digital national carbon registry to prevent double counting and ensure the integrity of emission-reduction claims.

Legislative Backbone:

- As of February 2026, a legislative roadmap has been outlined for Parliament to enact a Carbon Markets Framework Act. This law will provide legal recognition of carbon credits as intangible legal assets, clearly defining ownership and establishing rules for taxation, dispute resolution, and community benefit-sharing.

National Contribution:

- To protect national goals, 5% of all Mitigation Outcomes generated through these projects are mandatorily reserved for Pakistan's own Nationally Determined Contribution (NDC) achievement. Additionally, a 1% administrative fee is applied to national authorizations to support market governance.

Figure 7: Article 6 Framework and Legislative Roadmap

Pakistan should move beyond preliminary feasibility studies to establish a fully operational national allowance-based ETS, leveraging partnerships like the SPAR6C programme to align with international best practices.



To ensure the country remains competitive in a decarbonizing global economy, the following actions are necessary:

Establishment of a Cap-and-Trade Strategy:

- The government needs to implement a robust "cap-and-trade" mechanism that sets a mandatory upper limit on greenhouse gas output for high-emission sectors. This cap should be progressively lowered over time to provide a clear market signal that incentivizes industries to invest in technological modernization and low-carbon alternatives.

Strategic Revenue Reinvestment:

- Revenue generated from carbon pricing should be ring-fenced and reinvested into national green innovation and industrial decarbonization funds. This is a critical requirement for Pakistani exporters, particularly in the iron, steel, and textile sectors, who must use these resources to lower their carbon intensity before the EU's Carbon Border Adjustment Mechanism (CBAM) moves into full implementation with certificate requirements in 2026.

Sectoral Phase-in:

- The ETS should initially target the most carbon-intensive industries to build institutional experience before expanding city-wide. This phased approach will allow the state to refine its Monitoring, Reporting, and Verification (MRV) systems while minimizing initial economic shocks to smaller enterprises.

Figure 8: Pathway to a Domestic Emissions Trading System (ETS)

PIONEERING ARTICLE 6 PILOT PROJECTS (2025–2026)

Pakistan is currently developing high-integrity pilot projects that demonstrate the standards required for international carbon transactions.

PROJECT NAME	SECTOR	IMPACT & SCALE	MECHANISM
LAKHODAIR LANDFILL (LAHORE)[9]	**Waste Management**	Capturing methane from 18 million tonnes of accumulated waste to generate usable energy.	**Article 6.4**
DELTA BLUE CARBON (SINDH)[10]	**NbS / Forestry**	Expected to generate 142 million CO2e by 2075; has already generated $40 million in initial revenue.	**Voluntary / Article 6**
PUNJAB WASH INITIATIVE[11]	**Water & Sanitation**	Installation of 250 filtration units; expected to reduce 1.5 million tonnes of CO2 by avoiding wood use.	**Article 6.4**

The effective execution of carbon markets is projected to reduce Pakistan's public borrowing needs by approximately $3 billion annually by 2030. By translating policy intent into enforceable law, the country aims to attract significant private and philanthropic capital.







9 https://urbanunit.gov.pk/Download/publications/Files/11/2021/Lakhodair%20Landfill%20Site.pdf
10 https://deltabluecarbon.com/
11 https://tribune.com.pk/story/2581787/world-bank-approves-400m-project-to-improve-water-sanitation-in-punjab

SECTION 3

NAVIGATING GLOBAL TRADE AND THE ENERGY REVOLUTION



ADDRESSING PAKISTAN'S TRIPLE CRISIS

Pakistan's industrial and energy sectors are navigating a "triple crisis" of economy, energy, and environment. As the global trade landscape shifts toward carbon accountability, the national strategy is transitioning toward integrated structural reforms, including the transformation of the National Transmission and Dispatch Company (NTDC) into the National Grid Company and the establishment of an Independent System and Market Operator (ISMO). This transition is no longer an environmental choice but a prerequisite for maintaining export competitiveness and national energy security.

Current Status and Progress:

Pakistan's industrial sector is under increasing pressure as its electricity grid remains significantly more carbon-intensive than the global average due to a historical reliance on fossil fuels. The Ministry of Commerce fast-tracked the "Green Pakistan Export Initiative"[12] to help textile and cement sectors align with global benchmark standards, as failing to provide verified carbon footprints could result in a 25% Carbon Border Tax under regulations like the EU-CBAM. While major corporate leaders have already invested over 14 billion PKR in climate initiatives, the "solar rush", which has seen over 20,000 MW of local solar capacity installed by consumers, is creating severe operational challenges for the national grid that require urgent technical stabilization.

INDUSTRIAL DECARBONIZATION & TRADE

The implementation of the European Union's Carbon Border Adjustment Mechanism (CBAM) represents a critical transition risk for Pakistani exporters, as the compliance phase officially began on January 1, 2026. Exporters in carbon-intensive sectors now face a potential 25% carbon tax if they fail to provide verified product carbon footprints, jeopardizing the 30% of total national exports destined for the EU.

Current Status: In February 2026, The Ministry of Commerce and UNIDO have signed the Programme for Country Partnership (PCP) 2025–2030[13] to establish sector-specific emission curves and designate "CBAM-ready" exporter groups to maintain global price competitiveness and achieve green growth.

Strategic Policy Alignment	• To retain carbon revenues domestically, Pakistan must prioritize the finalizing of the **National Carbon Pricing Policy** to facilitate a compliance-based Emissions Trading System (ETS). • This proactive measure would allow any carbon price paid within Pakistan to be deducted from CBAM liabilities in the EU, ensuring that capital remains within the country to fund local industrial modernization rather than being diverted to international certificate purchases.
Decarbonization of Energy Sourcing	• Industries should capitalize on the proposed raising of solar net-metering caps for industrial consumer, moving from **1MW to 5MW.** • By integrating renewable energy with gas-based **Combined Heat and Power (CHP)** systems, manufacturers can create a practical and scalable route to meet the "assurance-ready" energy standards required by global buyers.
Institutionalizing Digital MRV	• Beyond current training, there is an urgent need to establish **ISO-certified verification bodies** within Pakistan, Shifting from manual spreadsheets to digital **Measurement, Reporting, and Verification (MRV)** systems. • Adopting the **Digital Product Passport** will allow firms to communicate real-time emissions data to importers, turning compliance into a competitive advantage for low-carbon producers.
Value Chain Traceability	• For sectors like textiles, which are expected to enter the CBAM scope by 2030, companies must begin developing upstream traceability databases. • Fulfilling the EU's eco-design requirements by manufacturing more durable, recyclable products with maximum recycled content will be essential to maintaining GSP+ status and securing a long-term position in the global market.

Figure 9: Framework for Navigating Global Carbon Regulations:

12 https://greenpakistaninitiative.com/#:~:text=What%20is%20the%20mandate%20of,and%20by%20authorized%20representatives%20only.
13 https://www.unido.org/news/unido-and-pakistan-sign-programme-country-partnership-advance-green-industrial-growth#:~:text=UNIDO%20and%20Pakistan%20sign%20Programme,strategic%20location%20and%20climate%20vulnerability.

Panel Discussion:

Navigating the Storm, Geopolitics and the Future of Global Climate Governance

Key Highlights of the Discussion:

- **Credibility as Capital:** Access to climate finance in the current geopolitical landscape must be earned through the credibility of domestic regulatory systems. Investors are increasingly prioritizing regulatory clarity and assurance over mere vulnerability narratives.
- **The 14-Fold Gap:** Pakistan's climate finance needs have escalated from $40 billion in 2016 to $565.7 Billion by 2035 (as per NDC 3.0), creating a $50 billion annual requirement that dwarfs the combined national and provincial development budgets of $15 billion.
- **The Carbon Revenue Trap:** Without a domestic carbon pricing mechanism, the "tax" on Pakistani products will be collected by the EU. Implementing a local Emissions Trading System (ETS) ensures this capital stays within Pakistan to fund industrial greening.
- **Ecosystem Collapse vs. Economic Models:** Current economic models often fail to account for the "extremes" of climate change. With every major critical ecosystem on a path to collapse, the shift must move from traditional capitalism toward a more moral and restorative economic model.



Ms. Musarat Jabeen (SECP):

- "Investors today are not just looking at climate vulnerabilities in isolation; they are weighing regulatory clarity, transparency, and assurance. Regulation must go beyond intent and focus on integrity to combat greenwashing."
- "The success of the 2025 inaugural sovereign green sukuk demonstrated strong demand, which will now deepen the pipeline for corporate and energy transition sukuks."



Mr. Ali Tauqeer Sheikh (Climate Expert):

- "We need to challenge the Western orthodoxy that has brought us to this point and build alternative coalitions. De-dollarization through Panda Bonds is a growing and cost-effective option for Pakistan."
- "Multilateralism is hollow; we must accelerate the domestic mobilization of financial resources and not expect $565.7 billion to be waiting for us."



Mr. Rafay Alam (Environmental Lawyer & Activist):

- "Climate change is a symptom of a flawed economic model based on overconsumption and colonialism. We are beyond adaptation; we are witnessing the collapse of ecosystems that sustain our civilization."
- "The broken promises of mitigation since 1992 have turned natural disasters into man-made climate catastrophes. We must dismantle these systems of consumerism to save the future."

Learnings and Outcomes from the Panel Discussion:

- **Proactive Policy Alignment:** Pakistan must finalize its National Carbon Pricing Policy to allow carbon taxes paid locally to be deducted from EU liabilities, keeping capital within the country.
- **Institutionalizing Digital MRV:** Shifting from manual spreadsheets to digital Measurement, Reporting, and Verification (MRV) systems and adopting the Digital Product Passport is essential to meet EU auditing requirements.
- **Energy Sourcing Strategy:** Accelerating the transition to industrial solar is the fastest way for manufacturers to lower their Scope 2 emissions and meet CBAM benchmarks.
- **Trust as a Catalyst:** Investors will not commit long-term capital unless they trust the regulatory system; the SECP's "ESG Sustain" portal is a vital step in providing the data-driven analytics required for this trust.



CLEAN TRANSPORT & E-MOBILITY:

Pakistan's transport sector accounts for approximately 28% of the total energy-related CO2 emissions and is a primary driver of the $12 billion annual oil import bill. To address this, the government has pivoted toward aggressive electrification, targeting a transition where electric vehicles (EVs) make up 30% of all new vehicle sales by 2030 and 90% by 2040.

Current Status: In January 2026, the federal government notified the New Energy Vehicle (NEV) Policy 2025–2030, which aims for 100% electrification of the national fleet by 2050 and achieve a net zero by 2060. This is supported by the Pakistan Accelerated Vehicle Electrification (PAVE) scheme, which provides a Rs.100 billion subsidy to deploy 100,000 electric bikes and 50,000 rickshaws by the end of the decade.

Financial Incentives and Consumer Subsidies:
The NEV Policy provides a capped subsidy of **Rs. 50,000** for electric two-wheelers and **Rs. 200,000** for three-wheelers to bridge the price gap with traditional engines. To scale this effectively, the government **needs to ensure** the timely disbursement of these funds through a digital "Green Rebate" system and encourage commercial banks to offer interest rates below 10% for EV financing.

Battery Localization and Industrial Standards:
Under the new policy, the government is incentivizing the setup of local assembly for **Lithium-Iron-Phosphate (LFP)** batteries, which are better suited for Pakistan's high-temperature environment. To move forward, the Ministry of Industries **needs to mandate** standardized battery swapping protocols and establish a national recycling framework to manage the projected **battery waste** expected by 2035.

Infrastructure and Grid Integration:
The policy sets a target for **3,000 public fast-charging stations** across major highways and urban centers by 2030. To achieve this without straining the national grid, the power sector **needs to implement** time-of-use (ToU) billing and "Smart Charging" infrastructure that automatically shifts EV charging loads to daytime hours when solar generation is at its peak.

Fleet Transformation:
The transition requires a "whole-of-government" approach where 50% of all government vehicle procurement must be EVs by 2027. Local municipalities **need to collaborate** with private operators to convert existing diesel bus fleets into electric Bus Rapid Transit (BRT) systems, potentially saving **$1.2 billion in fuel costs** over the next five years.

Figure 10: Key Interventions Required to Scale Pakistan's Electric Mobility Ecosystem

MODERNIZING THE POWER GRID:

The Pakistani power grid is currently grappling with a **"solar rush"** that has fundamentally altered the national energy landscape, with on-grid metered solar capacity reaching **7,000 MW** and off-grid/hybrid installations estimated to exceed **13,000 MW.** While this distributed generation provides individual relief from high tariffs, it has created a significant **"mechanical shock absorber"** gap in the national grid, as intermittent renewable energy lacks the inertia provided by traditional spinning turbines.

Current Status: On February 9, 2026, NEPRA officially notified the **Prosumer Regulations 2026,** which replaced the 2015 "Net Metering" regime with a "Net Billing" system. This move aims to protect the financial stability of distribution companies (DISCOs) by shifting from a 1-to-1 unit swap to separate import and export rates, with buyback prices reduced from Rs. 26 to approximately Rs. 8 per unit. However, this transition has raised significant concerns regarding the extended payback periods for solar investments, which could discourage middle-class adoption and slow the momentum of private-sector-led decarbonization.

Panel Discussion:

From Gridlocks to Green Growth – Realizing Pakistan's Renewable Revolution

Key Highlights of the Discussion:

- **The "Solar Rush":** While individual solar adoption is high, it creates a severe operational challenge when the sun sets, requiring the grid to manage an 8,000 to 10,000 MW variation in just two hours. This necessitates "peaking generation" and energy storage solutions that the current system lacks.
- **Demand-Side Mismanagement:** Pakistan's 18,000 MW gap between summer and winter demand is largely driven by poorly designed, uninsulated buildings. Reducing the system peak through energy efficiency is as critical as increasing generation capacity.
- **Investment Opportunities:** There is a massive opening for private sector participation in grid-level Battery Energy Storage Systems (BESS), pumped hydro, and Public-Private Partnerships (PPP) for high-voltage transmission infrastructure.



Dr. Fiaz Ahmad Chaudhry (Chairman of Board, National Grid Company):

- "Solar provides energy, but it doesn't provide capacity. We have relied on piecemeal solutions for too long; we need to return to 25-year master planning to harmonize the grid."
- "We are exploring the use of static VAR compensators and converting base-load plants into synchronous condensers to provide the dynamic reactive power needed to transport renewable energy from the south to the north."



Mr. Imtiaz Hussain Baloch (Director General Licensing, NEPRA):

- "NEPRA's new regulations restrict solar installations to the sanctioned load because 'oversizing' was blocking transformer capacity for new consumers and adding to the operational misery of the system."
- "Our licensing regime is now straightforward for those looking to invest in storage or supply; the focus is on ensuring every new connection fulfills the grid code through proper feasibility studies."



Dr. Khalid Waleed (Research Fellow, SDPI):

- "Pakistan has installed 6,000 MW of coal through $6 billion in debt, while citizens have installed solar with zero external loans. We must bridge the gap between community-financed projects and national grid stability."
- "The energy crisis is a multifaceted equation of economy, energy, and environment; if we do not decrease the carbon intensity of our grid now, regulations like CBAM will erode our global export competitiveness."

Learnings and Outcomes:

- **Transition to Synchronous Condensers:** The technical solution for a "weak" grid is to repurpose retired or underutilized thermal plants to provide mechanical inertia without burning fuel.
- **Incentivizing Storage:** Future regulations must support household-level battery storage and industrial captive generation to contribute to the grid during system peaks.
- **Integrated Planning:** Solving the "Energy-Economy-Environment" triangle requires a move away from debt-heavy imported fuel projects toward indigenous, decentralized renewable energy supported by smart storage.
- **Sodium-Ion Potential:** Utilizing Pakistan's massive salt reserves for sodium-ion battery technology represents a revolutionary opportunity for localized, low-cost energy storage.



FUTURE FUELS & EFFICIENCY:

Pakistan's industrial sector, contributing 23% of total final energy consumption and roughly **8% of national GHG emissions,** is at a structural crossroads. The sector currently grapples with a grid that is **1.4 times more carbon-intensive** than the global average, while **60% of primary energy** is lost during conversion and transport. To meet the **50% emission reduction target by 2030,** which requires a staggering $101 billion[14] for energy transition, the country is shifting toward indigenous low-carbon fuels and massive efficiency gains.

Institutionalizing Green Hydrogen

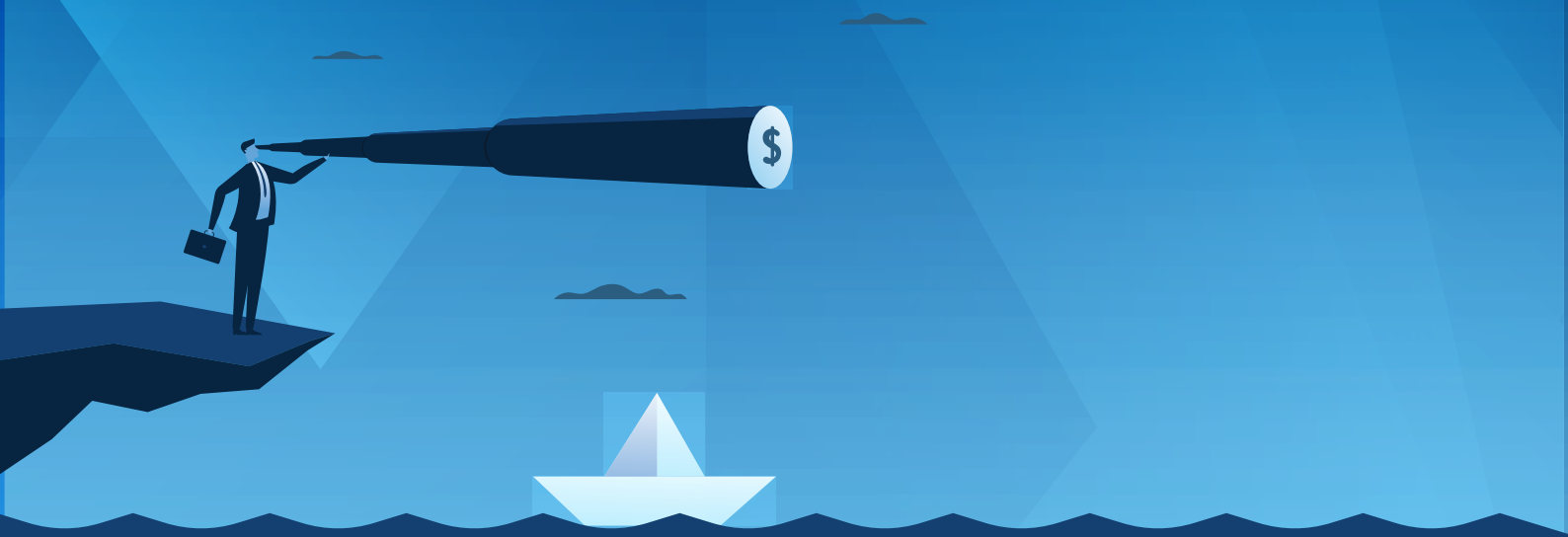
Through its partnership with UNIDO's Global Green Hydrogen Programme, Pakistan is transitioning from fragmented pilot projects to a structured, institutionalized hydrogen economy. This child project is specifically designed to dismantle the barriers of "high-risk" perception that have historically deterred international investors. By aligning national policies with UNIDO's global standards, Pakistan is creating a high-integrity ecosystem where GH2 is treated as a foundational industrial commodity rather than just an experimental fuel. This framework addresses the "Coordination Gap" by bringing together government regulators, industrial clusters at Port Qasim, and global financing mechanisms to ensure that the necessary infrastructure—from electrolyzer deployment to GH2-ready storage, is technically and financially viable for long-term industrial decarbonization.



14 https://tribune.com.pk/story/2525412/renewable-energy-targets-demand-100b-investment#:~:text=Renewable%20energy%20targets%20demand%20$100,committee%20on%20the%20EV%20policy.

SECTION 4

HARMONIZING BLUE ECONOMY, WATER STEWARDSHIP, CIRCULATRITY & AI



PAKISTAN'S BLUE ECONOMY

Pakistan's 1,050 km coastline is no longer just a geographical boundary but the frontline of the country's climate adaptation strategy. While the maritime sector currently contributes only 0.4% to 0.5% of the national GDP (approximately **$1 billion**[15]), its potential is estimated at over **$100 billion by 2047.** In the immediate term, realizing a **$5 billion annual "Blue Economy"** is essential to protect coastal infrastructure from sea-level rise, which threatens to inundate one-third of major coastal cities, while unlocking new avenues for "Blue Finance."

The urgency for a resilient blue economy is driven by compounding environmental and economic pressures.

Seawater Intrusion:

Over **2 million acres** of fertile land in the Indus Delta have been lost to the sea, with an average erosion rate of **30 meters per year** on the left bank of the Indus.

Economic Hemorrhage:

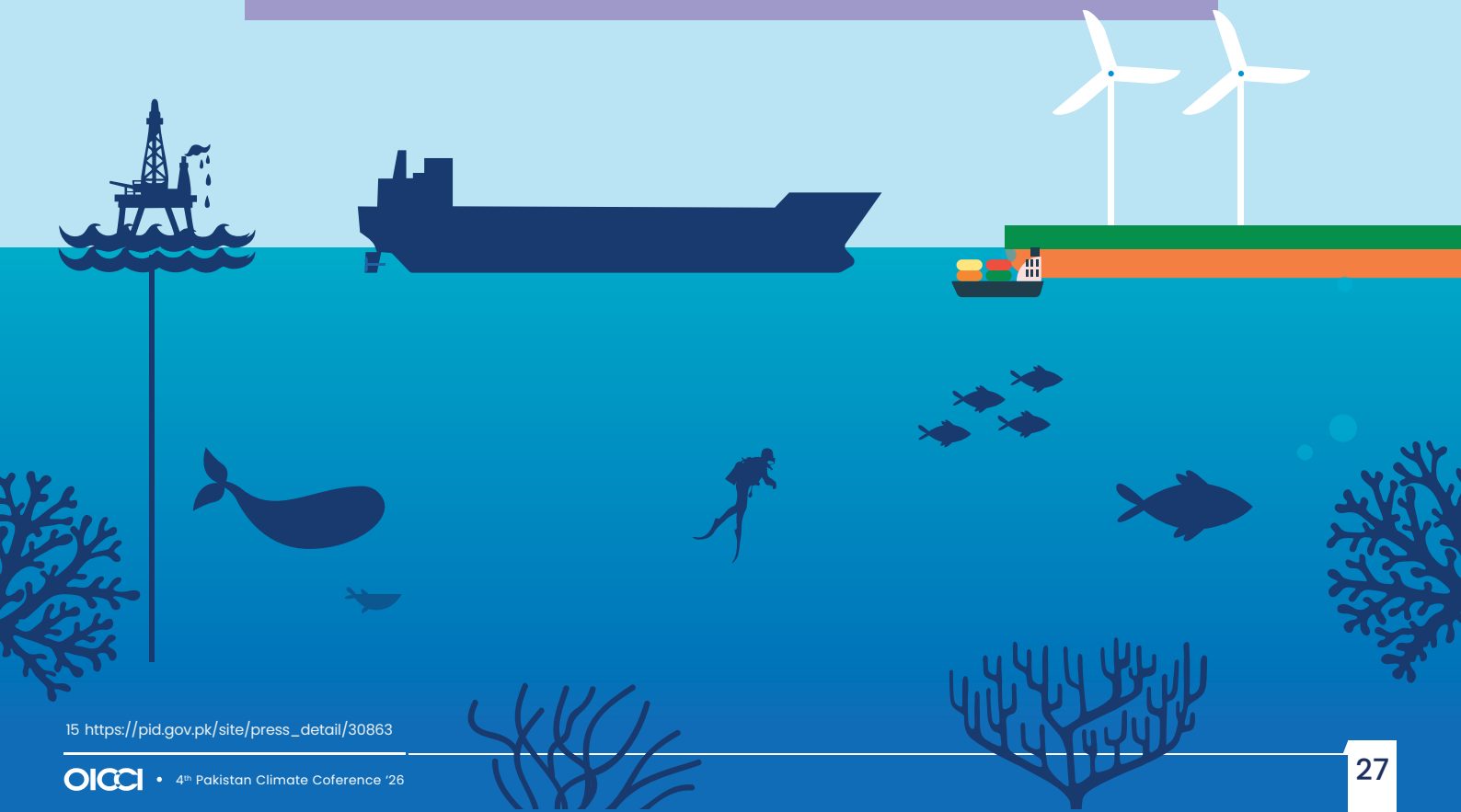
Climate change impacts along the coastal belt currently cost Pakistan around **$ 6 - 14 billion per year,** equivalent to **~ 5% of national GDP.**

Displacement:

Nearly **1.2 million people** have migrated from the Indus Delta region over the last 20 years as soil salinity renders farming and fishing impossible.

Potential:

While current seafood exports sit at **$500 million**, the sector holds a feasible growth potential of **$2 billion annually** if value-added processing and cold-chain logistics are modernized.



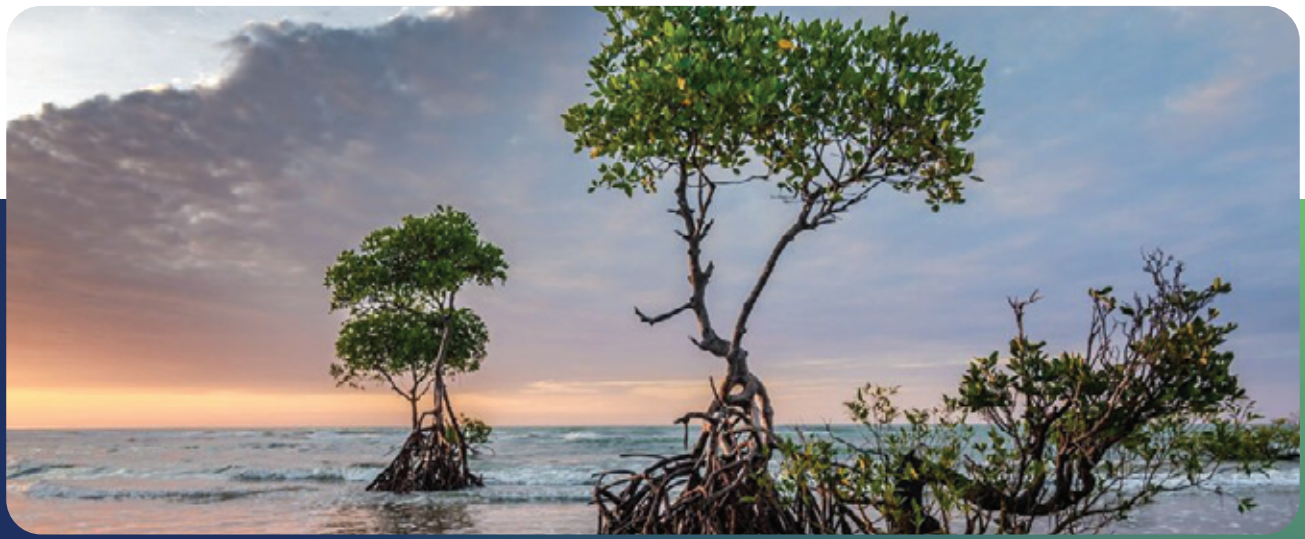
15 https://pid.gov.pk/site/press_detail/30863

NATURE-BASED SOLUTIONS (NBS) & BIODIVERSITY CREDITS:

While Pakistan possesses significant "Natural Capital," the current landscape is characterized by **experimental pilots** rather than an integrated framework. Historically, the country has relied on **"grey infrastructure"** (concrete dams and embankments) which, according to the 2022 and 2025 flood assessments, has proven insufficient to address the root causes of vulnerability. Public funding for nature remains scarce, with a **16% SDG financing gap** of annual GDP. Currently, for every dollar invested in nature protection, significant funds are still directed toward nature-negative activities. The **Indus Delta Blue Carbon Project** has achieved global recognition as the world's largest mangrove restoration initiative, successfully sequestering an estimated **3.1 million voluntary carbon credits** in its initial issuance. This is bolstered by the **February 2026 $3 million GEF grant** aimed at accelerating the transition to sustainable fisheries and marine biodiversity conservation, directly supporting the livelihoods of over **3.8 million people** in the Thatta, Sujawal, and Badin districts.

Coastal Resilience through Mangrove Restoration	• Mangroves serve as the "frontline defense" against climate change, acting as natural buffers that protect coastal communities and ports while sequestering carbon **10 times more effectively** than terrestrial forests. The **$180.5 million Sindh Coastal Resilience Project,** signed with the ADB in December 2025, is now actively restoring **300,000 hectares** of degraded tidal wetlands to mitigate the **$14 billion annual loss** Pakistan currently faces due to coastal climate impacts. • Restoration activities **need to integrate** traditional indigenous knowledge with modern **Digital Monitoring, Reporting, and Verification (DMRV)** systems. Using high-resolution satellite imagery and bio-acoustics ensure the "integrity" of these ecosystems, which is a prerequisite for attracting high-premium international buyers in the voluntary carbon market.
Biodiversity Credits: Financing the "Nature Positive" Future	• While carbon credits focus on emissions, **Biodiversity** Credits value the biological integrity of a species-rich habitat. Under Pakistan's **2025 Sustainable Finance Framework,** the country is piloting "Nature Certificates" to tap into the growing demand for nature-positive investments. This mechanism aims to bridge the **$655 billion climate finance gap** by treating nature as a productive asset rather than a liability. • To scale these credits, the Ministry of Climate Change **needs to establish** a high-integrity **National Biodiversity Credit Framework.** This framework **needs to ensure** that 60% of all credit revenues are reinvested directly into local conservancies, formalizing the role of coastal communities as "guardians of the delta" while providing them with the legal and financial tools to escape climate-induced poverty.

Figure 11: Strategic Pathways for Coastal Resilience and Climate Finance in Pakistan.



Panel Discussion:

Sustainable Resource Management in the Blue Economy

Key Highlights of the Discussion:

- **The "Sea Blindness" Crisis:** Despite a 1,000 km coastline and 80% of national trade passing through the ocean, Pakistan's maritime sector contributes only 0.4% to its GDP. This systemic neglect results in billions of dollars being left on the table annually.
- **A Strategic Double Whammy:** Pakistan is simultaneously failing to harness maritime economic opportunities while facing a "triple planetary crisis": climate change, biodiversity loss, and pollution. If the transition to green shipping and smart ports is not managed now, the economy faces a "bust rather than a boom."
- **Self-Sufficient "Blue Finance":** Pakistan pays $4.5 billion annually to foreign shipping lines. By expanding the national fleet and reviving ship recycling at Gadani (a $1 billion opportunity), the country can generate its own climate mitigation funds instead of relying solely on external debt.
- **Operational Infrastructure Gaps:** The lack of a petrochemical refinery at Gwadar prevents Pakistan from capturing the bunkering market. Currently, out of 3,600 ships calling at Pakistani ports annually, not a single one takes fuel from domestic refineries, representing a massive lost revenue stream.



Javed Iqbal (President, NIMA):

- "Oceans are the world's largest carbon sink, absorbing 90% of excess heat, yet we are destroying them. We must move to a Penta-helix model, integrating Academia, Business, Government, Community, and Media, to create a functional blue investment ecosystem."
- "Policy in Pakistan is often politically expedient, but strategy demands hard choices. We need a functioning feedback loop where progress is tracked and implementation is prioritized over mere rhetoric."



Mr. Nadir Mumtaz (Former Chairman, KPT):

- "We don't need to beg for $13.5 billion in climate aid; we are losing that much through administrative inaction. We process 3 million containers a year but have zero container ships of our own, this is a massive drain on our foreign exchange."
- "Uneducated land reclamation along the Karachi coastline is forcing water into estuaries and deltas, which gobbles up agricultural land. We must restore the collapsed locks and gates of drainage systems like the LBOD to stop seawater from freely flowing onto our food-producing soil."



Mr. Mahmood Akhtar Cheema (Country Representative, IUCN):

- "We must shift our focus from the terrestrial landscape to the seascape. Pakistan recently added an underwater area the size of Sindh to its territory (extended continental shelf), yet it remains largely unexplored and unmanaged."
- "Nature-based solutions are proven; mangrove cover has grown from 84,000 to 250,000 hectares, generating millions in blue jobs. However, the private sector must now lead the way in scaling these pilots into sustainable eco-tourism and 'Nature Positive' businesses."

Learnings and Outcomes:

- **Administrative Action as Finance:** "Blue Finance" for climate resilience can be unlocked by fixing operational bottlenecks, such as reviving the Gadani ship recycling industry and localizing the shipping fleet, to stop the multi-billion dollar flight of foreign exchange.
- **Green Bunkering & Refineries:** To align with global shipping decarbonization, Pakistan needs to establish a green bunkering hub and petrochemical refinery at Gwadar to serve international vessels and reduce regional fuel dependency.
- **Gender-Inclusive Resilience:** Implementing the Climate Change Gender Action Plan in coastal areas is essential to ensure that the 3.8 million people vulnerable to coastal erosion are protected through inclusive, nature-based strategies.
- **Shift to "Smart" Maritime:** Transitioning to smart, green ports and utilizing the BBNJ (Biodiversity Beyond National Jurisdiction) treaty provides a significant opportunity for Pakistan to lead in regional maritime conservation and trade.



WATER STEWARDSHIP & REGENERATIVE AGRICULTURE:

Pakistan's agricultural and industrial sectors are the primary casualties of a "double-riparian" crisis: the acceleration of Himalayan glacier melt (receding by up to **30 meters annually**) and the high volatility of the Indus River system. In a country where agriculture accounts for **94% of national water withdrawals,** the traditional "extract-produce-waste" model is no longer viable. The country need to move towards a consolidated landscape approach. This strategy merges industrial water stewardship with regenerative farming to build **Scalable, Circular, and Inclusive Business Models.**

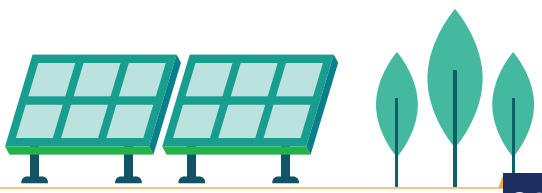
Pakistan has transitioned into an "alarming" water security phase, with roughly 23% of glacier ice lost since 1960. To address these systemic inefficiencies, the government is prioritizing the "5 Es" framework (Exports, E-Pakistan, Environment, Energy, Equity), where water conservation is the foundation for national food and economic stability.



Corporate Leadership in Water Stewardship

The Pakistani private sector is moving from passive compliance to proactive regeneration, recognizing that "water risk is business risk."

- **The Nestlé "Caring for Water" (C4W) Model:** As a global lighthouse market, Nestlé Pakistan became the first in the Nestlé world to have all its manufacturing sites certified by the Alliance for Water Stewardship (AWS). In 2023 alone, their in-house recycling conserved over 56,000 m3 of water. Beyond the factory gate, they have helped farmers install drip irrigation on over 3,500 acres, saving an estimated 31 million liters of water annually.
- **PepsiCo's Net Water Positive Goal:** PepsiCo Pakistan has committed to being Net Water Positive by 2030. Their Sundar manufacturing facility utilizes the AWS Standard to monitor catchment-relevant water risks. By introducing Sustainable Farming Program (SFP) practices to their potato growers, they have reduced water consumption by nearly 30% while increasing crop yields by 15%.
- **Engro's Integrated Approach:** Through the Engro Foundation, the company is scaling Climate-Smart Agriculture in the rice and dairy sectors. By promoting Alternate Wetting and Drying (AWD) in rice cultivation, they are helping farmers reduce water usage by up to 30% and methane emissions by 50%, demonstrating that low-carbon growth is possible at the farm level.



Industrial Water Stewardship & The "Zero Liquid Discharge" (ZLD) Mandate

- In Pakistan's competitive export market, water neutrality is shifting from a CSR goal to a trade requirement. Leading textile manufacturers in Faisalabad and Karachi have demonstrated that implementing Reverse Osmosis (RO) and Ultrafiltration can achieve a 70-85% water recovery rate, delivering an ROI within 18 months.
- To scale this, the government needs to mandate ZLD readiness for all new dyeing and finishing units, linking these benchmarks to the SECP's "ESG Sustain" portal to provide the transparency international investors demand.

Regenerative Agriculture

- Scaling Inclusive Value Chains With over 64% of Pakistan's farms now smaller than 5 acres, resilience must be inclusive to be effective. Through the SAI Platform (Pakistan Chapter), major players like Nestlé and PepsiCo are transitioning their supply chains toward regenerative practices—such as precision land leveling and mulching—which increase soil water-holding capacity by 20%.
- These models need to be paired with Inclusive Business Models (IBMs) that bundle climate-smart inputs with digital financial services, ensuring that smallholder farmers (particularly women, who comprise 71% of the female workforce in the sector) can access the capital needed for climate adaptation.

Low-Carbon Circularity

- The "Waste-to-Wealth" Engine Closing the loop between industry and agriculture is essential for a low-carbon economy. Pakistan should pivot toward Scalable Circular Models that treat agricultural residues as industrial resources. This includes the conversion of crop waste into Bio-Energy for textile boilers and the deployment of Solar-Powered Cold Chains to preserve horticultural value.
- By repurposing waste, these models reduce the environmental footprint while creating "Blue-Green" jobs in rural districts like Thatta and Badin, where seawater intrusion has previously destroyed traditional livelihoods.

Figure 12: Circularity and Inclusive Growth Strategy

Panel Discussion:

Accelerating Climate Action: Scalable Circular, Low-Carbon, Inclusive Business Models with Water Stewardship Integration

Key Highlights of the Discussion:

- **The "Polluter Pays" Imperative:** A fundamental barrier to circularity in Pakistan is the cultural expectation that "waste should pay." Panellists argued that businesses must shift from viewing waste management as welfare or CSR to an essential operational cost, where the polluter pays for responsible disposal.
- **The Water-Governance Crisis:** With 90% of national water consumed by agriculture and 90% of Karachi's 500 MGD wastewater entering the sea untreated, water scarcity in Pakistan is primarily a governance and coordination failure between fragmented departments.
- **Beyond-the-Fence Stewardship:** Leading corporates are moving from internal efficiency (plugging leaks) to external water replenishment. The focus has shifted to Integrated Water Resource Management (IWRM), where businesses take responsibility for the health of the entire local aquifer and catchment area.
- **The Scale of the Waste Challenge:** Pakistan generates approximately 50 million tons of waste annually, but collection efficiency is only 60%, mostly concentrated in urban centers. Current efforts are focused on transitioning from conventional dumping to "at-source" collection strategies.
- **Bridging the Scavenger-Formal Gap:** Circular models struggle to scale because formal waste management companies face competition from the informal "scavenger" economy, which offers lower prices but lacks environmental accountability and safety standards.



Mr. Ahmad Shabbar (Founder, Garbage Can):

- "To achieve circularity, we must understand intersectionality. It is not just about closing an industrial loop; it is about a cultural shift where sustainability is seen as essential business, not a charitable choice."
- "Rapidly changing policy infrastructures and a lack of trust between the public and private sectors have hindered progress. We need a narrative shift where institutions recognize the value of formal, responsible waste management systems."



Mr. Hammad Naqi (Director General, WWF Pakistan):

- "For Pakistan, climate change is water change. Our water economy is running dry and being polluted. We need the private sector to move 'beyond their fences' and adopt community-level stewardship to replenish what they extract."
- "We don't need high-tech, billion-rupee plants for everything. Low-cost solutions like floating constructed wetlands and recharge wells are based on local research and can effectively treat wastewater for agriculture while recharging our dying aquifers."



Mr. Tariq Nizami (MD, Sindh Solid Waste Management Board):

- "Success in waste management requires four pillars: an aware society, disciplined institutions, state-of-the-art infrastructure, and innovation. In Karachi, we have already eliminated 2,500 temporary dumping points through at-source collection."
- "The World Bank-funded SWEEP project is a game-changer. Once our four modern Garbage Transfer Stations are operational, we will have the infrastructure to divert and recycle 8,000 tons of waste daily, moving us closer to a true circular economy in Sindh."

Learnings and Outcomes:

- **Nature-Based Water Stewardship:** The adoption of Ablution (Wazu) Water Recycling for horticulture and Floating Wetlands for village ponds provides a scalable, low-energy blueprint for both rural and urban water conservation that reduces reliance on freshwater.
- **Aquifer Health as a KPI:** Installing Recharge Wells (as seen with the 200 wells in Lahore) must become a standard KPI for urban businesses to mitigate flash flooding and actively replenish depleted groundwater tables.
- **Infrastructure Integration:** The transition from "scavenging" to "engineered landfills" and GTS (Garbage Transfer Stations) is critical. The completion of Sindh's first sanitary engineered landfill in 2026 marks a shift toward modern, compliant waste disposal.
- **Inclusive Business Opportunities:** There is massive potential for biogas and plastic recycling plants to provide subsidized energy to local communities while managing urban organic waste.
- **Incentivizing Private Sector Ownership:** To bridge the finance gap, businesses must endorse and scale existing local research and pilots, moving from individual corporate "replenishment targets" to collective, landscape-level interventions.



SUPPLY CHAIN RESILIENCE & CIRCULARITY

The transition to a resilient economy depends on the integration of small and medium enterprises (SMEs) into green value chains and the modernization of urban waste management. For Pakistan, this requires moving away from fragmented, manual systems toward industrialized circularity that treats waste as a resource.

While large multinationals are leading the climate transition, the broader economy relies on thousands of SMEs that face a significant "bankability" gap. To maintain export competitiveness, especially under the EU-CBAM framework, Pakistan must prioritize the following:

- **Supply Chain Financing:** Large global buyers sitting in Pakistan need to support their suppliers with decarbonization and social commitments. Instruments such as Sustainability-Linked Supply Chain Financing should be utilized to provide lower-cost capital to SMEs that meet specific environmental KPIs.
- **Low-Cost Circular Solutions:** Industrial zones should adopt nature-based technologies like floating constructed wetlands for low-cost wastewater treatment and water recycling systems to reduce operational costs and environmental impact.

Urban Waste Transformation: The Case of SSWMB

The Sindh Solid Waste Management Board (SSWMB) has demonstrated that urban resilience is achievable through centralized, technology-driven collection and disposal strategies. In Karachi, the board has successfully eliminated 2,500 out of 3,000 "Temporary Dumping Points" (TDPs) by implementing an at-source collection model tailored to specific urban zones, including business hubs, vertical buildings, and informal settlements (katchi abadis).

Key infrastructure milestones currently being integrated into the urban system include:

- **Garbage Transfer Stations (GTS):** Four modern GTS facilities are under construction with World Bank support, designed to handle 8,000 tons of waste daily. This network will serve as the backbone for diverting and recycling urban waste.
- **Sanitary Engineered Landfills:** The construction of a sanitary engineered landfill site is nearing completion, providing a safe and regulated final disposal point for non-recyclable waste.
- **Recycling Plants:** Operational plants in Hyderabad and Karachi (including a partnership with UK-based Tierra) are actively processing discarded plastics into usable materials, proving the commercial viability of waste-to-resource models.

LEVERAGING AI AND DIGITAL TWINS: URBAN RESILIENCE AND FRONTIER TECHNOLOGIES

With Pakistan's urbanization rate being among the highest in South Asia, cities are becoming the primary theaters of climate risk. Traditional 2D mapping is no longer sufficient to predict the "flashy" monsoon patterns of 2026, where high-intensity rainfall often exceeds city drainage capacity within minutes. To address this, Pakistan needs transitioning toward a "Digital Defense" strategy, integrating Artificial Intelligence (AI) and Digital Twins to modernize urban management.

To predict and mitigate the increasingly frequent "cloudburst" events, Pakistan needs to institutionalize AI-driven predictive analytics as a core component of its national defense. By processing vast datasets from real-time satellite imagery, IoT-enabled rain gauges, and river-flow sensors, AI can predict flood occurrences with high precision, providing a vital 48-to-72-hour window for anticipatory action. Beyond flood forecasting, these technologies need to be deployed for dynamic urban heat mapping to combat the heat-island effect, optimizing the placement of "cool roofs" and green corridors in high-density districts. Furthermore, AI-powered systems need to play a critical role in structural health monitoring, using computer vision to identify cracks in dams, bridges, and old-city infrastructure before failure, and in optimizing city-wide energy loads during extreme weather peaks to prevent systemic grid collapses that currently paralyze urban centers during monsoons.



The Need for Predictive Geospatial Intelligence

Pakistan **needs to move** beyond manual flood monitoring toward an **AI-integrated National Early Warning System.** While traditional models fail to predict localized "cloudbursts," machine-learning algorithms can process trillions of data points from satellite imagery and IoT sensors to achieve up to **99.9% prediction accuracy.**

To be effective, this technology **needs to bridge the "last-mile" gap.** It is not enough to have data at the federal level; the system **needs to automate** localized alerts that reach residents in informal settlements through mobile-integrated platforms, providing actionable evacuation windows days before a disaster strikes.

The Need for Urban Digital Twins

As city infrastructure buckles under the **Urban Heat Island effect,** Pakistan's municipal authorities **need to develop Digital Twins,** dynamic virtual replicas of cities like Karachi, Lahore, and Peshawar. These replicas are essential for simulating "what-if" planning scenarios, such as how a new high-rise development might block natural wind corridors or how a proposed drainage upgrade will perform under a 100-year flood event.

Beyond engineering, these Digital Twins **need to serve as "Civic Digital Commons."** They must be used to democratize urban planning, allowing citizens to visualize the impact of heat exposure or sea-level rise on their specific neighborhoods. Without this digital transparency, urban multi-billion-rupee investments will continue to be "blind" to the shifting climate reality, risking massive stranded assets in the face of ecosystem collapse.

Figure 13: Integrating AI and Climate Resilience

Panel Discussion:

Harnessing Artificial Intelligence (AI) for Global Climate Resilience: A Deep Dive into High-Impact Solutions, Ethical Governance, and Public-Private Sector Adoption

Key Highlights of the Discussion:

- **The Predictive Survival Mandate:** The primary goal for Pakistan's tech ecosystem is transitioning from "Post-Disaster Description" (counting losses) to Predictive Survival. The objective is to produce headlines that celebrate lives saved by AI-led GLOF (Glacial Lake Outburst Flood) warnings issued 72 hours in advance.
- **Data Sovereignty & Digital Colonialism:** A central theme was the risk of "Digital Colonialism," where foreign AI models govern Pakistan's climate response. There is the urgent need for local technical capacity to master the data of our own crises, ensuring that heat stress thresholds and basin behaviors are accurately represented.
- **The AI Energy-Water Nexus:** In a sobering reality check, the panel discussed the high environmental cost of compute power. In a water-stressed country like Pakistan, the massive energy and water cooling requirements for large data centers make AI a potential "nemesis" unless high-compute power is used strategically as a "scalpel" for critical interventions.
- **The "Climate Brain" for Exporters:** For the business leaders, AI was presented as a survival tool for global trade. By utilizing AI to automate the discovery and measurement of Scope 3 emissions, Pakistani firms can bypass the "manual spreadsheet" trap and meet the rigorous audit requirements of the EU-CBAM.



Dr. Umar Saif (Founder & CEO aiSight.ai):

- "We must utilize AI to bypass our telemetry deficit. Since 70% of Pakistan's watersheds lack physical sensors, we need to leverage machine-learning models like the Google Flood Hub that use satellite data to provide a 15-day heads-up for riverine floods, reaching communities that are currently 'blind' to approaching water."
- "AI's role in reconstruction is revolutionary; by using building footprint extraction from 1.5-meter resolution satellite imagery, we can instantly audit disaster damage across thousands of schools and roads, ensuring that climate-resilient reconstruction funds are directed exactly where the geometry of infrastructure has failed."



Ms. Sana Quadri (Founder & CEO, Edwatch):

- "The current 'boardroom crisis' in Pakistan is one of bankability. If you cannot provide auditable, real-time climate data, your cost of capital will rise, and your debt rollovers will be rejected. We need to move from static PDFs to 'Climate Operating Systems' that provide a real-time management dashboard for sustainability."
- "AI is the ultimate tool for upskilling; it can bridge the 37% skills gap in our corporate sector by providing automated guidance on ISSB standards and Green Taxonomy, ensuring that even small-scale exporters can remain globally competitive without hiring $100,000 consultants."



Ms. Fatima Attarwala (Editor Business & Finance, Dawn):

- "We must move from descriptive narratives of climate disasters to predictive intelligence, where AI enables us to forecast events like Glacial Lake Outburst Floods (GLOFs) in advance and measure success by lives saved, not losses reported."
- "The emerging AI divide risks deepening global inequality; without building local data ownership and technical capacity, countries like Pakistan risk remaining data subjects rather than becoming data decision-makers."

Learnings and Outcomes:

- **Data Sovereignty:** Pakistan must master its own data to ensure climate representations are nuanced to the Indus Basin and local heat stress thresholds. This includes a $1 million initiative to generate data in regional languages like Pashto, Balochi, and Sindhi.
- **Transition to "Assurance-Ready" Data:** Businesses need real-time visibility rather than static PDFs. Moving targets in global regulation (like EU-CBAM) require an "ESG command system" that is assurance-ready, not just report-ready.
- **Responsible AI Framework:** Adoption must prioritize Transparency (model rationale), Accountability (human sign-off), and Fidelity (unbiased processing). Security concerns are best addressed through secure SaaS environments with rigorous audit trails.
- **Optimizing Local Impact:** The goal of AI in the Global South should be Predictive Resilience, forecasting a Glacial Lake Outburst Flood (GLOF) 72 hours in advance to save lives, rather than just using high-compute power for visual generation.





SECTION 5

Accountability & Corporate Leadership



ACCOUNTABILITY & CORPORATE LEADERSHIP

Pakistan's corporate sector has reached a critical turning point where climate action is no longer viewed as a voluntary corporate social responsibility (CSR) initiative, but as a fundamental de-risking and competitiveness strategy. As global regulations like the EU's Carbon Border Adjustment Mechanism (CBAM) move into enforcement, the domestic regulatory landscape is shifting from "victim narratives" toward rigorous, data-driven governance strategies. This transition is anchored by the SECP's ESG Disclosure Guidelines, which aim to align Pakistani firms with global bankability standards by ensuring sustainability data is accurate, verifiable, and "assurance-ready". By integrating nature-based solutions and circular business models into their core operations, leading enterprises are demonstrating that decarbonization can drive both economic profitability and long-term industrial resilience.

SECP ESG Disclosure Guidelines 2025/26:

To transition from voluntary intent to mandatory accountability, the **Securities and Exchange Commission of Pakistan (SECP)** has established a comprehensive regulatory roadmap. This framework is designed to align the Pakistani corporate sector with international standards, ensuring that sustainability disclosures are comparable, verifiable, and "assurance-ready" for global investors.

The Mandatory Adoption Roadmap

The SECP has notified the adoption of IFRS Sustainability Disclosure Standards (IFRS S1 and S2) in a phased approach. These standards require companies to disclose material information regarding sustainability-related risks and opportunities that affect their financial performance and access to capital.

PHASE	EFFECTIVE DATE	APPLICABILITY CRITERIA (MEETING ANY TWO)
PHASE I	July 1, 2025	Annual turnover > Rs. 25 billion; Employees > 1,000; Total assets > Rs. 12.5 billion
PHASE II	July 1, 2026	Annual turnover > Rs. 12.5 billion; Employees > 500; Total assets > Rs. 6.25 billion
PHASE III	July 1, 2027	All other listed companies and licensed non-listed Public Interest Companies

- **Sustainability Assurance:** Starting from the second year of reporting, companies are required to obtain mandatory assurance on their sustainability disclosures from their statutory auditors.
- **Board Accountability:** Under the amended Code of Corporate Governance (2024), boards of listed companies are now explicitly responsible for overseeing sustainability risks and setting clear priorities and targets for long-term value creation.



Alignment with the Pakistan Green Taxonomy (PGT)

In December 2025, the SECP issued revised ESG Disclosure Guidelines to provide a standardized framework specifically aligned with the Pakistan Green Taxonomy. This alignment provides a "common language" for the market, allowing investors to identify which economic activities are genuinely sustainable.

- **Activity-Level Data:** Companies must now disclose climate-related risks and opportunities alongside data that matches the environmental objectives defined in the PGT.
- **Digital Reporting Interface:** The "ESG Sustain" portal has been designated as the official platform for these disclosures. All listed companies are required to onboard the portal to ensure timely and standardized reporting of their ESG performance.

Combating Greenwashing:

The SECP is moving toward a **risk-based supervisory model** that uses analytics from the ESG Sustain portal to detect inconsistencies and ensure the integrity of corporate disclosures.

Bridging the Skills Gap:

Recognizing that **37% of companies** struggle with relevant reporting skills, the SECP and professional bodies like **ICAP** are leading massive capacity-building initiatives to prepare the finance and audit communities for mandatory compliance.

Figure 14: Strategic Objectives for 2026



Corporate Case Studies

Transforming Commitment into Impact



Beko Dawlance

Beko Global has integrated sustainability into its core decision-making and innovation processes, establishing a governance structure where climate action is monitored at the board level and embedded into corporate culture and incentives. The company's global climate goals are translated into localized actions across spending, manufacturing, and supply chains, guided by science-based targets aimed at 2030. Beko is specifically targeting a 42% reduction in Scope 1 and Scope 2 emissions, alongside a 90% reduction in Scope 3 emissions against its established baseline. To achieve these commitments, the company is accelerating action across its global production network, where it has already reached 60% renewable energy usage with a definitive goal of achieving 100%.



Mr. Fatih Kemal Ebiclioglu
(President, Consumer Durables, Koç Holding)

As a home appliance company, sustainability must be embedded in how products are designed and used, because nearly all of the industry's environmental impact occurs during product use by consumers. That is why we focus on delivering highly energy- and resource-efficient appliances that meet consumer needs while enabling a lower-carbon future.

In Pakistan, this transition is evidenced by all three manufacturing plants being equipped with solar power systems totaling 3 megawatts in capacity, which has successfully reduced annual greenhouse gas emissions by 22%. Beyond renewable energy, the company has completed over 180 energy efficiency projects, resulting in substantial natural gas savings, and has embedded wastewater recycling tools directly into its operations. Because 99% of the company's emissions are generated during the product's use by the consumer, Beko's strategy centers on high energy efficiency; today, more than 70% of its portfolio consists of low-carbon products. This includes the introduction of energy-efficient appliances and air conditioners in Pakistan designed to address both power consumption and air quality concerns. Circularity further supports this model, as products incorporate reused plastics while packaging is based entirely on recycled paper and waste. Additionally, Beko Pakistan has led efforts in localizing components, such as condensers, which has significantly reduced transport-related emissions while building local industrial resilience.



Nestlé
Good food, Good life

Nestlé's approach reflects a clear evolution from delivering positive impact for people and the planet to leveraging sustainability as a source of long-term competitive advantage for farmers, communities, and business. At the core of this model is Creating Shared Value (CSV), which integrates outcomes for people, the planet, and business performance into a single, interdependent framework embedded within Nestlé's strategy.

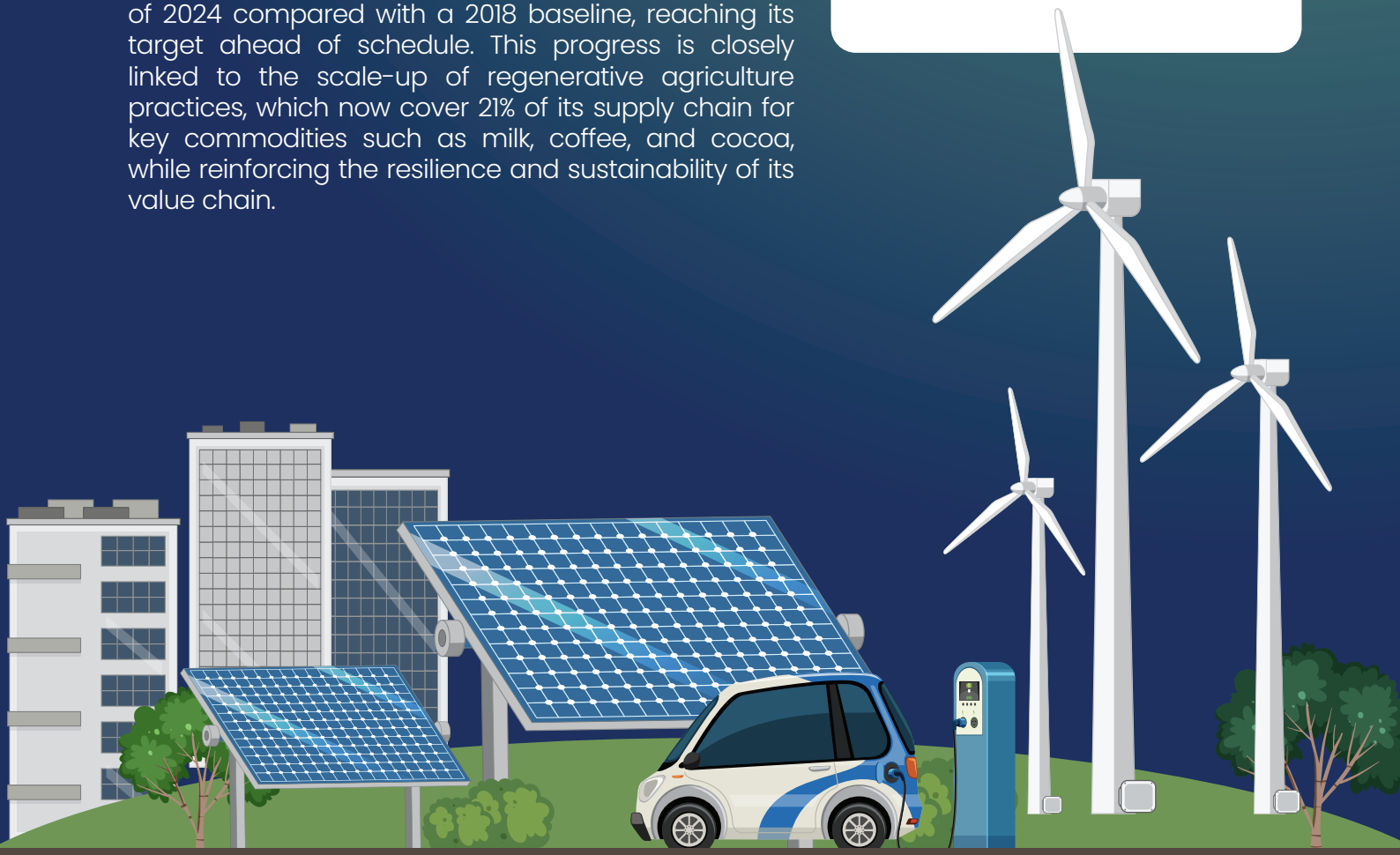
As a result, initiatives across climate action, regenerative agriculture, and packaging circularity are designed to deliver both environmental progress and business value, guided by key drivers such as cost optimization, risk mitigation, and enhanced consumer preference.

Nestlé has moved beyond traditional sustainability metrics to this integrated CSV approach, achieving a 20% reduction in greenhouse gas emissions by the end of 2024 compared with a 2018 baseline, reaching its target ahead of schedule. This progress is closely linked to the scale-up of regenerative agriculture practices, which now cover 21% of its supply chain for key commodities such as milk, coffee, and cocoa, while reinforcing the resilience and sustainability of its value chain.



Antonia Wanner
(Global Chief Sustainability Officer, Nestlé S.A.)

At Nestlé, Creating Shared Value means delivering for people, the planet, and the business together. Our focus on three pillars; climate action, regenerative agriculture, and circularity, demonstrates how sustainability drives impact at scale. By the end of 2024, we had achieved a 20% reduction in greenhouse gas emissions compared with our 2018 baseline, reaching our target ahead of schedule while strengthening farmer livelihoods and building more resilient and sustainable supply chains.



At Unilever Pakistan, sustainability is a strategic business imperative. Our approach has evolved in response to economic, environmental, and social challenges, focusing on four priority pillars—Climate, Nature, Plastics, and Livelihoods—to drive systemic impact across our operations and value chain. Through our Climate Transition Action Plan, we are advancing towards net-zero emissions by 2039, having already achieved a 96% reduction in emissions compared to our 2015 baseline. Other key initiatives include plastic waste collection and circularity, water stewardship programs near our factories, and providing a living wage to our own employees while advocating for it across our value chain, reflecting our strong commitment to climate action, resource efficiency, and improved livelihoods.



Fiona Duggan
(Global Sustainability Senior Manager, Unilever Pakistan)

"We are determined to deliver consistent and competitive business performance while supporting policies that help us decarbonize and limit warming to 1.5°C in line with the Paris Agreement. Climate breakdown, nature degradation, plastic pollution, and rising inequality are affecting supply chains and resilience, so our updated Climate Transition Action Plan sets near-term greenhouse gas reduction targets across our value chain and outlines clear actions toward net zero. To scale solutions, strong government policy is essential as we accelerate renewable energy, regenerative agriculture, and sustainable supply chains."

Renewable Energy Transition:

The company has successfully transitioned to 97% renewable energy usage and achieved a 95% reduction in emissions against its 2015 baseline.

Strategic Financing:

Utilizing a loan from the State Bank of Pakistan's climate financing scheme through Standard Chartered, Unilever established an 8.5-megawatt renewable energy facility in Punjab, demonstrating a financially feasible pathway for fast-track decarbonization.

Global Best Practices:

The company leverages international experience, such as the Renova Terra program in Brazil, a 32 million Brazilian Reais investment to transition 45,000 hectares to regenerative soy production, and pioneering Power Purchase Agreements (PPAs) in India that deliver 25% cost savings while avoiding 28,000 tons of CO_2 annually.

Policy Advocacy:

Unilever emphasizes that corporate strategies must move in sync with national commitments, advocating for clear government regulations and market incentives to unlock private investment at scale.



Sustainability is a strategic focus area for Standard Chartered, as it strives to promote inclusive growth and prosperity across its markets. The Bank believes sustainable finance is essential to addressing the significant social and environmental challenges facing its market footprint and has committed to mobilizing USD300 billion in sustainable finance by 2030.

It aims to be a responsible business that manages environmental and social risks, acts transparently, and invests in people and communities. Standard Chartered reached net zero in its own operations in 2025 and aims to reach net zero in its financed emissions by 2050. As part of its roadmap to net zero, it has set and disclosed financed emissions reduction targets for 2030 across its 12 highest-emitting sectors, including a facilitated emissions target for oil and gas, which currently accounts for the majority of emissions within its facilitation portfolio. The Bank also published its inaugural Nature Report in 2025 as an early adopter of the Taskforce on Nature-related Financial Disclosures (TNFD) Framework. The report details its approach to assessing, evaluating, understanding and managing nature-related impacts, dependencies, risks and opportunities across both financing activities and operations.

The Bank is also focused on mobilizing capital towards solutions that seek to improve lives and expand participation. This commitment to social sustainability is reflected both in its commercial activities—such as supporting women's livelihoods through the Women's Livelihood Bond series and the SC WIN program and through the Standard Chartered Foundation, which is creating pathways for youth employment and entrepreneurship.

A critical area of focus is applying deep expertise across sustainability disciplines, including transition finance, alongside an innovative product suite, to deliver bespoke sustainable finance solutions that address challenges, support clients' transitions and enable sustainable growth. In Pakistan, this is reflected in trade and supply chain financing, where the Bank helps large global buyers support local suppliers in their decarbonization efforts.
Alongside its sustainable finance offering, Standard Chartered recognizes that new ideas, financial tools and technologies are key to unlocking areas where capital is not yet flowing at scale. Through Innovation Hubs, it is helping to scale breakthrough solutions in adaptation finance, blended finance programs, carbon markets, nature-positive solutions and the circular economy, contributing to the development of the broader sustainability ecosystem.

Examples include its work to support the development of high-integrity, scalable carbon markets through participation in some of the largest carbon market transactions and partnerships with high-integrity projects to bring carbon credits to market. This includes a recent USD200 million Clean Cooking Outcome Bond issued by the World Bank, which is expected to unlock USD30.5 million in climate finance to deploy 415,000 clean cooking devices across four regions in Ghana.

The Bank is also helping to scale innovative financing solutions to help mobilize capital towards nature, including new models for sovereign sustainable finance. One recent example is a EUR433 million sustainability-linked loan structured for the Ministry of Finance and Budget of Côte d'Ivoire, where Standard Chartered acted as sole lender and mandated lead arranger. The facility enables access to financing on more favorable terms by linking financial conditions to clear sustainability performance targets related to deforestation prevention, reforestation, as well as renewable energy.

Through these instruments, spanning loans, bonds, deposits and derivatives, Standard Chartered aims to support its clients and markets to achieve long-term, sustainable growth.



SECTION 6

ACTIONABLE ROADMAP



ACTIONABLE ROADMAP

Based on the technical insights and industry feedback from the 4th Pakistan Climate Conference, this section outlines a strategic tripartite roadmap designed to bridge the gap between policy intent and economic execution.

POLICY RECOMMENDATIONS FOR FEDERAL AND PROVINCIAL GOVERNMENTS

To move beyond the "victim-based" narratives of the past, the Government of Pakistan needs to institutionalize a "Climate Prosperity" engine. This requires a shift toward rigorous, enforceable regulatory frameworks that provide the long-term certainty necessary for large-scale private investment.

Strengthening the Legislative & Institutional Backbone

- **Enacting the Carbon Markets Framework Act:** Parliament needs to urgently enact a Framework Act that legally defines carbon credits, ITMOs, and verified emissions reductions as intangible legal assets. This statutory backbone is critical to establish clear ownership rules and provide the legal certainty required for international contracts.
- **Defining Community Benefit-Sharing:** The legislation must establish a transparent mechanism for community benefit-sharing. This ensures that local populations, particularly in coastal and mountainous regions, are primary beneficiaries of nature-based solution revenues.
- **Operationalizing the Digital National Carbon Registry:** The Ministry of Climate Change must prioritize the transition from manual reporting to a centralized, digital national carbon registry. This is essential to prevent "double-counting" and ensure data integrity for international trade under Article 6.
- **Mandatory "Climate Clearance" for PSDP:** The Planning Commission should amend the Rules of Business to mandate a "Climate Clearance" for all public development projects exceeding Rs. 500 million, ensuring they are screened for long-term climate resilience before funding is released.

Energy Transition and Grid Technical Stabilization

- **Transitioning to 25-Year Integrated Planning:** NEPRA and the National Grid Company need to move away from piecemeal solutions toward 25-year master planning to harmonize the grid with the "solar rush."
- **Incentivizing Synchronous Condensers:** The government should provide policy incentives to repurpose retired thermal base-load plants into synchronous condensers. This provides the mechanical inertia needed to stabilize a grid increasingly reliant on intermittent renewables.
- **Establishing a Tariff for Storage (BESS):** Future regulations must provide clear tariff structures for Battery Energy Storage Systems (BESS). This is required to manage the massive 8,000–10,000 MW generation variation that occurs at sunset.
- **Sodium-Ion Battery Research:** The government should fund a national R&D mission to explore sodium-ion battery technology, utilizing Pakistan's massive salt reserves for localized, low-cost energy storage.

Trade, Taxation, and Global Competitiveness

- **Implementing a Domestic Carbon Levy:** To prevent "carbon tax leakage", where taxes on Pakistani exports are collected by the EU, the federal government should introduce a dome stic carbon pricing mechanism. This allows the state to collect revenue locally that would otherwise be lost to CBAM.
- **Ring-Fencing Revenue for Industrial Greening:** Revenue generated from domestic carbon pricing should be ring-fenced for industrial decarbonization funds. These funds must be used to lower the carbon intensity of the textile, steel, and cement sectors.

Maritime, and Urban Resilience

- **Institutionalizing Maritime Spatial Planning:** Provincial governments should prioritize maritime spatial planning to revive ship recycling at Gadani and establish green bunkering hubs at Gwadar, stopping the $4.5 billion annual flight of foreign exchange.
- **Restoring Drainage Infrastructure:** Urgent administrative action is required to restore the collapsed locks and gates of drainage systems like the LBOD to stop seawater from destroying food-producing soil in Sindh.
- **Mandating Urban "Cool Roofs":** Municipal authorities should amend building bylaws to mandate "cool roofs" and green corridors in high-density districts to combat the intensifying urban heat-island effect.
- **National Infrastructure Audit:** An AI-powered national audit needs to be conducted to identify structural vulnerabilities in dams, bridges, and old-city infrastructure before the monsoon season.

A comprehensive legislative, economic, and technical framework for sustainable adaptation.

1. Strengthen Statutory & Digital Frameworks

Enact comprehensive climate adaptation laws
Modernize building codes for resilience
Implement national digital land registry
Establish climate data repository

2. Protect Revenue & Industrial Exports

Develop climate-resilient export zones
Diversify economic sectors & income sources
Offer incentives for green industries
Enhance supply chain robustness

3. Defend Coastlines, Cities & Infrastructure

Construct robust sea walls & levees
Implement urban flood management systems
Retrofit critical infrastructure & transport
Enhance early warning systems & disaster response

4. Harmonize the Grid & Scale Storage

Modernize transmission infrastructure
Integrate large-scale renewable sources
Promote community microgrids & storage
Incentivize battery technology adoption



STRATEGIC GUIDELINES FOR MULTINATIONAL AND LOCAL CORPORATIONS

To move beyond viewing sustainability as a "compliance cost," the Pakistani corporate sector needs to internalize decarbonization as a core driver of bankability and export survival. The following strategic actions are required for corporations to align with global standards like the EU-CBAM and ensure long-term industrial resilience.

Data Integrity and Digital Governance

- **Transitioning to "Assurance-Ready" Data:** Corporations must immediately move from fragmented manual spreadsheets to integrated digital ESG management systems. This is necessary to provide the "cradle-to-gate" verifiable data required by international auditors and financial institutions.
- **Onboarding the "ESG Sustain" Portal:** All listed and large-scale companies need to onboard the SECP's official disclosure portal. Utilizing this centralized platform ensures that sustainability reporting is standardized, transparent, and shielded from "greenwashing" allegations.

Operational Decarbonization and Energy Efficiency

- **Thermal Repurposing and Heat Recovery:** Industrial units need to audit their primary energy loss. Implementing waste-heat recovery systems and transitioning from furnace oil to indigenous biomass or low-carbon fuels can reduce operational costs while significantly lowering the carbon footprint.
- **Localization of Critical Components:** Following the Beko (Dawlance) model, manufacturers should prioritize the localization of supply chains for energy-intensive components. This reduces transport-related Scope 3 emissions and mitigates the risk of global logistics disruptions.

Water Stewardship and Circular Economy

- **Moving "Beyond the Fence" for Water:** Corporations need to shift from internal efficiency to Integrated Water Resource Management (IWRM). This includes taking responsibility for the health of local aquifers and adopting community-level stewardship to replenish the water they extract.
- **Implementing Nature-Based Solutions (NbS):** Firms should deploy low-cost, high-impact technologies like floating constructed wetlands for industrial wastewater treatment. These nature-based systems offer a scalable, low-energy alternative to traditional chemical treatment plants.
- **Transitioning to "At-Source" Waste Segregation:** To participate in the circular economy, businesses must implement strict at-source waste segregation. This allows industrial waste to be treated as a resource for recycling or biogas generation rather than being diverted to landfills.

Supply Chain De-risking and Inclusive Growth

- **Supporting SME Decarbonization:** Large-scale exporters must provide technical training and capacity-building for their SME suppliers. If the supply chain fails to provide verified carbon data, the primary exporter's product will face higher taxes under global carbon regulations.
- **Utilizing Sustainability-Linked Finance:** Corporations should work with banking partners like Standard Chartered to access sustainability-linked loans. By embedding ESG KPIs (such as carbon reduction or water savings) into their financing, firms can directly lower their cost of capital.
- **Gender-Inclusive Climate Adaptation:** Companies need to integrate the Climate Change Gender Action Plan into their HR and CSR strategies. This ensures that women-owned SMEs and female workers—who are disproportionately affected by climate shocks—are prioritized in resilience-building efforts.

Financing Frameworks for International Development Partners

To effectively mobilize the $50 billion annual requirement identified in the NDC 3.0 assessments, international development partners (MDBs, IFIs, and bilateral donors) must transition from providing fragmented, project-based grants to establishing long-term, systemic investment platforms. The following framework outlines the necessary shifts in capital deployment and risk management required for a frontier market like Pakistan.

STRATEGIC PRIORITY	ACTIONABLE RECOMMENDATIONS & FRAMEWORK REQUIREMENTS	EXPECTED OUTCOME & IMPACT
RISK-SHARING & BLENDED FINANCE	Partners must move away from "risk dumping" on the private sector. Instead, use concessionary capital to provide First-Loss Guarantees and FX Hedging instruments to protect private investors against currency volatility and systemic policy shifts.	Unlocks large-scale private capital by lowering the perceived risk threshold for institutional investors.
PROGRAMMATIC PROJECT PIPELINES	Partners should assist the government in aggregating small-scale, standalone pilots into Programmatic Pipelines. This involves standardizing due diligence and legal templates to create $50M+ investment blocks that fit MDB mandates.	Enables "plug-and-play" investment opportunities for global climate funds (GCF, CIF) and impact investors.
DIRECT SME INTEGRATION	Financing needs to be channeled through local commercial banks to establish SME Green Credit Lines. These should offer lower interest rates for businesses that commit to verified decarbonization and circularity KPIs.	Closes the "bankability gap" for the thousands of SMEs that form the backbone of Pakistan's export supply chain.
TECHNICAL ASSISTANCE FOR MRV	Partners should provide specialized technical grants to operationalize the Digital National Carbon Registry. This includes training local auditors and state regulators on Article 6 high-integrity standards.	Ensures Pakistan's carbon credits are tradeable at premium prices in international compliance and voluntary markets.
NATURE-BASED SOLUTION (NBS) SCALING	Funding should prioritize scaling proven NbS pilots, such as the Indus Delta Blue Carbon project. Partners must facilitate the transition from "grey" (concrete) to "green" (natural) infrastructure for flood management.	Provides cost-effective coastal and riverine protection while generating millions in "Blue Carbon" revenue.
INCLUSIVE DATA MASTERY	Partners must fund the development of local-language AI models. Translating climate risks and early warnings into Pashto, Balochi, and Sindhi is essential for "last-mile" community resilience.	Reduces mortality and loss of livelihood by making complex climate data actionable for vulnerable, non-English speaking populations.

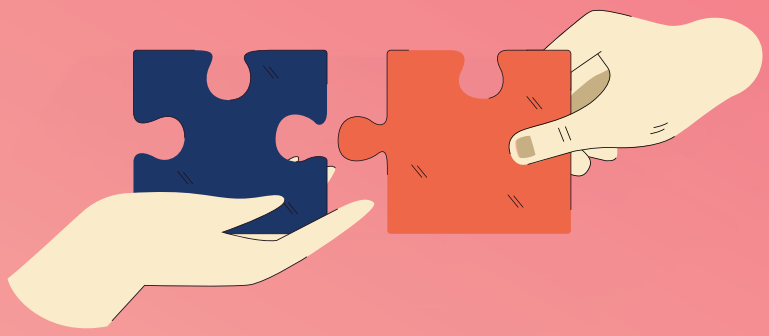
STRATEGIC PRIORITY	ACTIONABLE RECOMMENDATIONS & FRAMEWORK REQUIREMENTS	EXPECTED OUTCOME & IMPACT
CIRCULAR ECONOMY INFRASTRUCTURE	Financing should be targeted toward industrialized waste management, specifically the construction of Garbage Transfer Stations (GTS) and sanitary engineered landfills in urban-industrial corridors.	Diverts 8,000 tons of waste daily from informal dumping, creating local jobs and providing raw materials for the circular economy.
SOVEREIGN DEBT-FOR-NATURE SWAPS	Partners should explore restructuring a portion of Pakistan's external debt through Debt-for-Nature Swaps. This would allow the country to redirect interest payments toward national conservation and restoration projects.	Improves national debt sustainability while simultaneously funding critical climate adaptation and biodiversity goals.

	Foundation (Immediate)	Integration (Mid-Term)	Transformation (Long-Term)
International Partners Focus: Capital & De-risking	Deploy First-Loss Guarantees Build Programmatic Pipelines Fund MRV Tech Assistance	Scale 'Blue Carbon' NbS Fund Local-Language AI Open SME Green Credit Lines	Build Circular Infrastructure Execute Debt-for-Nature Swaps
Corporate & Industry Focus: Export Survival & Bankability	Adopt Digital ESG Join SECP 'Sustain' Portal Enforce At-Source Segregation	Repurpose Thermal Waste Deploy Floating Wetlands Upskill SME Suppliers	Localize Supply Chains Adopt Catchment IWRM Secure ESG-Linked Finance
Federal & Provincial Government Focus: Institutional Backbone & Grid Stability	Enact Carbon Framework Act Mandate PSDP 'Climate- Checks' Launch Digital Carbon Registry	Levy Domestic Carbon Tax Ring-Fence Industrial Green Funds Restore Critical Drainage	Set BESS Storage Tariffs Enforce Urban 'Cool Roofs' Mandate 25-Year Grid Plan

Figure 16: Pakistan Climate Prosperity Blueprint



STRATEGIC PARTNERS OF THE 4TH PAKISTAN CLIMATE CONFERENCE



FAYSAL BANK LIMITED

Faysal Bank's commitment to environmental stewardship is embedded across its operations and financing activities. In 2025, the Bank updated its Green Banking Policy in alignment with SBP's Green Banking Guidelines and implemented the 'SBP Climate Stress Testing Guidelines' through a comprehensive Environmental and Social Risk Assessment (ESRA) framework. We have 60 branches now operational on solar power, approximately 1,500 conventional air-conditioning units that have been replaced with energy-efficient alternatives, and Smart HVAC solutions deployed at major facilities. In addition, through the bank's partnership with TCF, 20 schools were converted to solar energy, reducing over 50 tons of CO_2 annually, reflecting the Bank's determination to a greener Pakistan.





NESTLE PAKISTAN LIMITED

By 2025, across its three sustainability pillars—Climate, Regenerative Agriculture, and Circularity—Nestlé Pakistan achieved a 48% reduction in GHG emissions (vs. 2018), installed over 9.5 MW of solar capacity across manufacturing sites, and commissioned a 20-ton/hour biomass boiler at Kabirwala. Nestlé also initiated the adoption of regenerative agriculture practices on 125 farms and facilitated the import of 11,000 environmentally friendly cows. In parallel, it supported solar and biogas adoption at farm level, developed a 100,000-tree urban forest in Islamabad, enabled access to clean drinking water for over 100,000 people daily, and progressed towards regenerating as much water as used by the Waters business. It is also advancing circularity by managing over 11,000 tons of packaging waste in Gilgit-Baltistan and investing heavily in design for recycling laminate packaging.





UNILEVER PAKISTAN

Water security is one of Pakistan's defining development challenges, with implications for communities, agriculture, industry, and economic growth. Unilever Pakistan has partnered with WWF-Pakistan to implement a Water Stewardship Program focused on groundwater recharge, sustainable water management, and long-term resilience. Through science-based interventions at our factories, as well as surrounding communities and agricultural belts, the initiative aims to replenish 192 million liters of water per annum, whilst promoting collaborative action beyond the factory boundary. By bringing together technical experts, civil society, media, and local stakeholders, the program seeks not only to deliver measurable impact but also to help establish models of water stewardship that can be scaled and replicated to support Pakistan's water-secure future.





MEEZAN BANK LIMITED

Meezan Bank has embedded Environmental, Social and Governance (ESG) principles into its business strategy through Shariah-compliant sustainable financing and responsible operations. In 2025, the Bank's Green Financing portfolio reached Rs 36.9 billion, supporting renewable energy, sustainable agriculture, energy-efficient infrastructure, and climate-resilient projects across Pakistan. The Bank has installed solar power systems at its Head Office and 196 branches, with a total capacity of 4.3 MW, reducing carbon emissions by approximately 1,100 metric tons annually. A notable milestone was the LEED Gold certification of Meezan Tower, Islamabad. Additionally, in collaboration with WWF-Pakistan, Meezan Bank planted 10,000 trees in Yazman District, contributing to ecosystem restoration and environmental conservation.





DAWLANCE PRIVATE LIMITED

Dawlance is driving local sustainability in Pakistan through climate-focused manufacturing and resource efficiency. Around 17% of its energy comes from clean sources to support operations. The company recycles 98% of waste, reuses 35% plastic in production, and uses 100% recycled pulp packaging. Food waste composting across all plants ensures zero landfill. Up to 38% of water is recycled through treatment systems with rainwater harvesting support. About 75% of the condenser value chain is localized, reducing imports and Scope 3 emissions. Dawlance also trained 1,000 technicians with UNIDO and Ministry of Climate Change on R-32 refrigerant safe handling, recovery and usage and promotes awareness through university hackathons, seminars, and community plantation initiatives.





THE COCA - COLA EXPORT CORPORATION

Coca Cola Pakistan has been part of the country's fabric for over seven decades and is committed to building a sustainable business while creating a better shared future for people, communities, and the planet. Guided by our sustainability ambitions, we focus on water and climate stewardship by improving operational water efficiency, supporting flood resilience, and advancing community water access initiatives. We are also working to reduce emissions and tackle packaging waste by strengthening local waste collection systems. Beyond environmental action, we continue to support community prosperity through platforms like Coke Studio and initiatives that empower women and strengthen livelihoods.





MARTIN DOW MARKER LIMITED

Through a series of renewable energy, energy efficiency, water stewardship, and sustainable packaging initiatives, the Martin Dow Group has made significant progress in advancing its ESG commitments. The Group installed and commissioned 413 kW of Solar PV capacity, generating 626,534 kWh of clean electricity annually, while additional solar projects totaling 1.1 MW are underway. Process optimization and waste heat recovery initiatives delivered annual natural gas savings of 2,900 MMBTU, while the ETP-RO system enabled Zero Liquid Discharge and recovery of 750,000 US gallons of water each year. Packaging optimization reduced PVC and aluminum foil consumption by 12 tons annually. Collectively, these initiatives have resulted in approximately 518 tCO_2e in emissions reductions, equivalent to planting nearly 11,500 trees, underscoring the Group's commitment to sustainability, climate action, operational excellence, and responsible resource stewardship.





INDUS MOTOR COMPANY LIMITED

Indus Motor Company (IMC), a joint venture between House of Habib, Toyota Motor Corporation, and Toyota Tsusho Corporation, was established in 1989 and celebrates 35 years in Pakistan's automotive industry. Operating from a 109.5-acre facility at Port Qasim, Karachi, IMC manufactures Toyota vehicles including the Corolla Cross; Pakistan's first locally manufactured hybrid. Production capacity has grown from 5,000 to 76,000 vehicles annually. Powered by Pakistan's largest rooftop solar installation (6.6 MW), IMC is WWF Green Office Certified. With 3,100+ employees, it supports over 100,000 households, has trained 10,000+ youth, and contributes 1% of pre-tax profit to community welfare annually.





OICCI 2ND CLIMATE EXCELLENCE AWARDS 2026



RECOGNIZING CORPORATE EXCELLENCE IN CLIMATE ACTION
OICCI 2ND CLIMATE EXCELLENCE AWARDS 2026

JURY CHAIR



FARRUKH H. SABZWARI

CEO

Pakistan Stock Exchange -PSX

JURY MEMBERS



KHURSHEED KOTWAL

Vice President

Institute Of Chartered Accountants Of Pakistan



MUSARRAT JABEEN

Executive Director / Chief Spokesperson / Divisional Head

Securities And Exchange Commission Of Pakistan-SECP



MEMOSH KHAWAJA

Former CEO & President

Pakistan Institute of Corporate Governance -PICG



YASMIN HYDER

CEO

NEW WORLD CONCEPTS



DAWAR HAMEED

Advisor Climate & Sustainability Service, Climate Finance Pakistan

The second OICCI Climate Excellence Awards were organised and held as part of the prestigious annual Pakistan Climate Conference. While OICCI has a rich history of advancing trade and business in the country, what has often remained unnoticed is the consistent contributions of its member companies towards achieving the UN Sustainable Development Goals (SDGs), and by doing so ensuring that environment and economy are equally prioritized. The second iteration saw participation of about 1/5th of OICCI's members, and contributions from companies were directed to 15 of the total 17 SDGs. After a thorough mixed methods analysis, the most innovative and effective of these have been recognised. By doing so OICCI has conveyed to the broader business community that climate impact is a significant indicator of business performance itself. Climate Finance Pakistan has been honoured to partner with OICCI on this impactful initiative.

KEY AWARD CATEGORIES & CORPORATE ACHIEVEMENTS

The OICCI Climate Awards recognized organizations across Pakistan for their exceptional climate resilience, environmental stewardship, and sustainable development initiatives across five categories.

OICCI Climate Champion

Nestle earned the top honor as OICCI Climate Champion for delivering the greatest climate impact across economy, environment, and society. Ranking in the 90th percentile across five categories, Nestle's partnerships with governments and communities exemplify holistic sustainability leadership.

Climate Action

WINNER

Dawlance Group of Companies' commitment to Climate Action goes beyond symbolic statements. Sustainability across all sectors and the local community are embedded in the company's core values. Its business strategy is science-based, with measurable decarbonization, and full value-chain engagement, with a commitment to being net-zero by 2050.

RUNNER-UP

Climate risk and resilience are an integral part of Unilever's business strategy, operations, and governance, delivering large-scale, measurable impact. With a net-zero ambition by 2039, the company has achieved a remarkable reduction in its Scope 1 and 2 emissions through several initiatives across manufacturing, supply chain, and other areas.

SMALL COMPANY

Climate performance is integrated in Loreal's budgeting, KPIs, and employee bonuses, while emissions are reduced through systemic operational changes. These efforts are complemented by verified energy decarbonization through renewable energy certificates, climate-risk preparedness through crisis, and continuity planning.

Renewable Energy & Conservation

WINNER (SHARED AWARD)

Prioritizes large-scale, on-site clean energy generation and integrates it directly into manufacturing operations, delivering real, measurable emissions reductions. Through a sizable investment, the company has built substantial solar capacity across factories, warehouses, and captive operations.

WINNER (SHARED AWARD)

Martin Dow Group is a renewable energy champion because it prioritizes direct, onsite clean energy generation supported by robust energy efficiency, digital monitoring, and ISO-aligned governance. This commitment is strengthened by a data-driven Energy Management System, continuous efficiency upgrades, and a well-trained workforce.

RUNNER-UP

METRO Pakistan has rapidly scaled its clean energy model that delivers emissions cuts, cost savings, and operational resilience across its retail network by partnering with Shams Power. This is reinforced by data-driven energy management, demonstrating how renewable energy can be embedded into core retail operations in a financially smart and scalable manner.

SMALL COMPANY

Their onsite solar power and operational efficiency across their Hassan Abdal manufacturing facility and Lahore head office deliver real, measurable climate and business benefits, which is complemented by efficiency measures such as LED lighting, inverter-based cooling, process optimization, and reduced fuel use in manufacturing.

Water Stewardship & Management

WINNER

PTC embeds water resilience into core business strategy, governance, and daily operations, delivering measurable outcomes aligned with global best practice. Its alignment with the Alliance for Water Stewardship (AWS), ensures data-driven decision-making, setting the standard for water stewardship practices.

RUNNER-UP

Reckitt Benckiser integrates responsible water management into strategic planning, operational control, and risk governance while delivering measurable outcomes. Water performance is managed through various methods, supported by investments in efficiency technologies.

SMALL COMPANY

Lotte Chemicals embeds responsible water management into every level of its operations. It uses advanced monitoring and digital systems to maximize efficiency, and ensure regulatory compliance.

Promoting Circular Economy

WINNER

PepsiCo. operates Pakistan's largest PET collection program, pioneering reverse vending machines, and localizing 100% rPET bottle production. It has closed the loop on plastic packaging. It converts multilayer packaging into eco-bricks and artisanal products, building technical skills and sustainable livelihoods across the recycling value chain.

RUNNER-UP

TetraPak has a comprehensive/ system to recover, recycle, and repurpose post-consumer packaging, diverting thousands of tons of used beverage cartons (UBCs) from landfills into recycled paper products and PolyAl-based materials, reducing dependence on virgin resources, lowering carbon emissions, and supporting the production of sustainable goods.

SMALL COMPANY

EPTL promotes a circular economy by transforming waste streams into valuable resources and closing material loops. Through initiatives like coal ash utilization in cement for facility development, the company significantly reduces environmental impact.

Sustainable Finance

WINNER

Mobilink Bank drives financial inclusion, women's empowerment, climate action, and green energy adoption through SDG-linked financing programs. Mobilink Bank exemplifies a holistic approach to responsible finance that balances social, environmental, and economic outcomes- an approach the finance sector can look to for guidance.

RUNNER-UP

Through a dedicated Sustainability Committee, Bank Alfalah integrates Environmental and Social Risk Management into credit approvals, ensuring responsible financing. It channels capital toward renewable energy, cleaner mobility, and resource-efficient projects, offering financing products like "Alfalah Green Energy" to broaden access to climate-friendly solutions.

Supporting Biodiversity

WINNER

ARL has launched comprehensive and scientifically grounded regenerative agriculture initiatives that restore ecosystems, enhance biodiversity, and improve climate resilience. It combines traditional agricultural knowledge with modern technologies and fosters community capacity-building ensuring long-term benefits.

RUNNER-UP

EPCL enables climate-resilient and resource-efficient farming through innovative material solutions and infrastructure support, helping farmers reduce water losses, prevent soil degradation, curb deforestation, and improve productivity. EPCL strengthens adoption of regenerative practices, builds local capacity, and supports long-term environmental benefits.

SMALL COMPANY

This company promotes sustainable agriculture by integrating innovative, and community-driven practices that enhance soil health, biodiversity, and climate resilience. Through initiatives like urban forests, EVTL promotes carbon sequestration, water conservation, native species preservation, and sustainable livelihoods.



ANNEXURE

METHODOLOGY OVERVIEW

Technical services for the development of methodology and evaluation framework provided by Climate Finance Pakistan, led by Mr. Dawar Hameed, Advisor Climate & Sustainability Services – CFP
This year's evaluation encompassed 36 companies spanning across 13 sectors.

Building on last year's inaugural awards, questionnaires across the six categories were improved upon and disseminated to OICCI Member companies. Capacity building webinars were then held to provide guidance and support on how to effectively fill them out. All companies also had to submit evidence of their sustainability initiatives in order to be considered for the awards.

Evaluation Process:
Following an initial screening of all entries to ensure they conform to each requirement, the filtered questionnaires and complementary evidence were reviewed, evaluated, and scored by a committee of experts. This evaluation was then presented to an independent jury for their verification and validation of scoring, following which the awardees were decided.

Technical Evaluation Methodology

1. Questionnaire-Based Evaluation

Participating companies completed structured questionnaires tailored to relevant categories. These were organized into three key sections:

- General Questions – Brief yes/no or short-form answers aimed at identifying baseline policies and commitments.
- Qualitative Impact Evidence – Narrative responses (up to 300 words) detailing strategic approaches, initiatives, stakeholder involvement, and innovation.
- Quantitative Impact Evidence – Metrics-focused responses that included key performance indicators and measurable outcomes.

2. Traffic Light Assessment (TLA)

Responses were evaluated using a color-coded system to reflect implementation strength. The tally was then summarized according to the number of Greens, Yellows, and Reds for each company's entry.



Red: Signaled limited data or lack of significant action
Yellow: Indicated work in progress or emerging practices
Green: Demonstrated strong performance and clear impact

Each company's results were summarized in a TLA format (e.g., 15G, 2Y, 1R) for consistency and comparison.

3. Weighted Scoring Model

To ensure fair and standardized scoring, a simple formula was applied:

Score = (3x Green) + (2x Yellow) + (1x Red)

This model ensures a balanced evaluation that rewards comprehensive responses.

4. Final Scoring & Evaluation

Scores were used to rank companies within their respective categories. A color-coded highlight system was introduced to visually differentiate top, middle, and lower-tier performers based on their total score and TLA breakdown.

The initiatives were aligned with the Sustainable Development Goals, specifically Goals 1, 2, 3, 4, 5, 6, 7, 8, 9, 11, 12, 13, 14, 15, and 17.

OICCI MEMBERS' EXEMPLARY INITIATIVES

OICCI Climate Champion

- The Climate Champion award is meant to recognize the highest level of positive climate impact from among all participating members.
- Great climate action means bringing the largest absolute reductions, beating broader benchmarks, and showing extensive social support to build climate resilience among communities.
- Among the handful of companies, which were in the running for the Climate Champion Award, it was Nestle that managed to be the top most when weighted for their performance across all submitted entries.
- Nestle's contributions span across economy, environment and society, having established successful partnerships with government, non-profits and communities.

UN SUSTAINABLE DEVELOPMENT GOALS SUPPORTED: SDG 2, SDG 3, SDG 6, SDG 12, SDG 13, SDG 15

Climate Action

WINNER

- Dawlance Group of Companies' commitment to Climate Action goes beyond symbolic statements. Rather, sustainability across all sectors from operations to value chain and the local community are embedded in the company's core values.
- Its business strategy is science-based, with measurable decarbonization, and full value-chain engagement. Aligned with the 1.5°C pathway and committed to net-zero by 2050, the company delivers verified emissions reductions through renewable energy expansion, sustainable product innovation, and other notable initiatives.
- Its leadership extends beyond operations to suppliers, communities, and ecosystems through resilience investments, nature-based solutions, transparent global-standard reporting, and active national and international climate advocacy

UN SUSTAINABLE DEVELOPMENT GOALS SUPPORTED: SDG 7, SDG 13

RUNNER-UP

- Finished as a close Runner-up to Dawlance
- Climate risk and resilience are an integral part of their business strategy, operations, and governance, delivering large-scale, measurable impact. With a net-zero ambition by 2039, the company has achieved a remarkable reduction in its Scope 1 and 2 emissions through several initiatives across manufacturing, supply chain, and other areas.
- Unilever also contributes generously to climate relief efforts, such as flood recovery, highlighting its commitment to Climate Action further.

UN SUSTAINABLE DEVELOPMENT GOALS SUPPORTED: SDG 12, SDG 13,

SMALL COMPANY

- Climate performance is integrated in Loreal's budgeting, KPIs, and employee bonuses, while emissions are reduced through systemic operational changes such as low-carbon logistics, rail-based freight trials, and continuous reduction of product destruction. The company complements these efforts with verified energy decarbonization through renewable energy certificates, strong climate-risk preparedness through crisis and continuity planning, and meaningful community support during climate disasters.

UN SUSTAINABLE DEVELOPMENT GOALS SUPPORTED: SDG 12, SDG 13,

Renewable Energy & Conservation

WINNER (SHARED AWARD)

- Prioritizes large-scale, on-site clean energy generation and integrates it directly into manufacturing operations, delivering real, measurable emissions reductions. Through a sizable investment, the company has built substantial solar capacity across factories, warehouses, and captive operations.
- This is reinforced by advanced energy efficiency, waste heat recovery, smart Energy Management Systems for real-time optimization, and a strong employee training culture, positioning Atlas Honda as a sector leader that combines renewable energy, digital intelligence, and operational resilience to drive a credible clean energy transition in Pakistan's automotive industry. It sets the roadmap for other companies in the industry to follow.

UN SUSTAINABLE DEVELOPMENT GOALS SUPPORTED: SDG 7, SDG 13

WINNER (SHARED AWARD)

- Similar to fellow winner, Martin Dow Group is a renewable energy champion because it prioritizes direct, onsite clean energy generation supported by robust energy efficiency, digital monitoring, and ISO-aligned governance
- Through targeted investments, the Group has installed solar capacity across multiple sites. This commitment is strengthened by a data-driven Energy Management System, continuous efficiency upgrades, and a well-trained workforce.

UN SUSTAINABLE DEVELOPMENT GOALS SUPPORTED: SDG 7, SDG 13

RUNNER-UP

- METRO Pakistan has rapidly scaled its clean energy model that delivers emissions cuts, cost savings, and operational resilience across its retail network. By partnering with Shams Power, METRO expanded its solar capacity across seven store.
- This leadership is reinforced by data-driven energy management through the METRO Energy Management System, demonstrating how renewable energy can be embedded into core retail operations in a financially smart, scalable, and climate-positive way.

UN SUSTAINABLE DEVELOPMENT GOALS SUPPORTED: SDG 7, SDG 13

SMALL COMPANY

- Onsite solar power and operational efficiency that deliver real, measurable climate and business benefits. Installation of solar power across its Hassan Abdal manufacturing facility and Lahore head office.
- Complementary efficiency measures such as LED lighting, inverter-based cooling, process optimization, and reduced fuel use in manufacturing.

UN SUSTAINABLE DEVELOPMENT GOALS SUPPORTED: SDG 7, SDG 13

Water Stewardship & Management

WINNER

- Pakistan Tobacco Company embeds water resilience into core business strategy, governance, and daily operations while delivering measurable outcomes aligned with global best practice. Its alignment with the Alliance for Water Stewardship (AWS), supported by rigorous water risk assessments, digital metering, real-time dashboards, and senior-management oversight, ensures transparent, data-driven decision-making, setting the standard for water stewardship practices.

UN SUSTAINABLE DEVELOPMENT GOALS SUPPORTED: SDG 6, SDG 13

RUNNER-UP

- In close second, Reckitt Benckiser integrates responsible water management into strategic planning, operational control, and risk governance while delivering measurable, verified outcomes both inside and beyond its factory gates. Water performance is managed through dedicated site utilities governance, monthly target reviews, and proactive risk assessments, supported by investments in efficiency technologies.

UN SUSTAINABLE DEVELOPMENT GOALS SUPPORTED: SDG 12, SDG 13,

SMALL COMPANY

- Lotte Chemicals embeds responsible water management into every level of its operations, strategic planning, and risk management. It uses advanced monitoring and digital systems, to maximize efficiency, and ensure regulatory compliance. Lotte Chemical reduces environmental impact and safeguards operational continuity, demonstrating notable achievements in sustainable and resilient water management.

UN SUSTAINABLE DEVELOPMENT GOALS SUPPORTED: SDG 6, SDG 13

Promoting Circular Economy

WINNER

- PEPSICO integrates systemic, measurable, and scalable circularity across its packaging value chain, transforming how plastic waste is collected, recycled, and reintegrated into products. By operating Pakistan's largest PET collection program, pioneering reverse vending machines, and localizing 100% rPET bottle production, the company has closed the loop on plastic packaging. Additionally, it converts multilayer packaging into eco-bricks and artisanal products, while building technical skills and sustainable livelihoods across the recycling value chain.

UN SUSTAINABLE DEVELOPMENT GOALS SUPPORTED: SDG 12, SDG 13

RUNNER-UP

- Tetra-Pak closely follows PepsiCo with its comprehensive, scalable system to recover, recycle, and repurpose post-consumer packaging. By diverting thousands of tons of used beverage cartons (UBCs) from landfills into recycled paper products and PolyAl-based materials, it reduces dependence on virgin resources, lowers carbon emissions, and supports the production of sustainable goods. It strengthens the recycling ecosystem through partnerships with multiple recyclers, digital traceability initiatives, and capacity building for stakeholders.

UN SUSTAINABLE DEVELOPMENT GOALS SUPPORTED: SDG 12, SDG 13

SMALL COMPANY

- Engro Powergen promotes a circular economy by transforming waste streams into valuable resources and closing material loops. Through initiatives like coal ash utilization in cement and construction, and repurposing scrap materials for facility development, the company significantly reduces environmental impact . EPTL demonstrates a holistic approach that integrates resource efficiency, emissions reduction, and social impact in circular, sustainable industrial practices.

UN SUSTAINABLE DEVELOPMENT GOALS SUPPORTED: SDG 9, SDG 12

Sustainable Finance

WINNER

- Mobilink Bank is the winner of the Award for sustainable finance. The Bank drives financial inclusion, women's empowerment, climate action, and green energy adoption through SDG-linked financing, programs like the WIN Incubator, Mobi-Leads, branch solarization, and targeted CSR initiatives, directly benefiting tens of thousands of individuals. Mobilink Bank exemplifies a holistic, impact-driven approach to responsible finance that balances social, environmental, and economic outcomes- an approach the finance sector can look to for guidance.

UN SUSTAINABLE DEVELOPMENT GOALS SUPPORTED: SDG 1, SDG 5, SDG 7, SDG 13

RUNNER-UP

- Through a dedicated Sustainability Committee reporting to the Board, Bank Alfalah integrates Environmental and Social Risk Management into credit approvals, applies IFC Performance Standards, and aligns with SBP guidelines, ensuring responsible and compliant financing. It channels capital toward renewable energy, cleaner mobility, and resource-efficient projects while offering innovative financing products like "Alfalah Green Energy" to broaden access to climate-friendly solutions.

UN SUSTAINABLE DEVELOPMENT GOALS SUPPORTED: SDG 7, SDG 13

Supporting Biodiversity

WINNER

- Attock Refinery Limited has launched comprehensive and scientifically grounded regenerative agriculture initiatives that restore ecosystems, enhance biodiversity, and improve climate resilience. By integrating solar-powered drip irrigation, rainwater harvesting, and agroforestry of its farmland, ARL has significantly reduced chemical fertilizer use and increased crop yields.It combines traditional agricultural knowledge with modern technologies, fosters community capacity-building through hands-on training, and promotes food security, ensuring long-term environmental, social, and economic benefits, creating a replicable model of sustainable agriculture for others to look to.

UN SUSTAINABLE DEVELOPMENT GOALS SUPPORTED: SDG 2, SDG 13, SDG 15

RUNNER-UP

- Engro Polymer & Chemicals enables climate-resilient and resource-efficient farming through innovative material solutions and infrastructure support. By promoting geomembrane-lined canals, drip irrigation, and Wood Plastic Composite products, EPCL helps farmers reduce water losses, prevent soil degradation, curb deforestation, and improve productivity. EPCL strengthens adoption of regenerative practices, builds local capacity, and supports long-term environmental benefits.

UN SUSTAINABLE DEVELOPMENT GOALS SUPPORTED: SDG 6, SDG 13, SDG 15

SMALL COMPANY

- EVTL promotes sustainable agriculture by integrating innovative, and community-driven practices that enhance soil health, biodiversity, and climate resilience. Through initiatives like urban forests, EVTL promotes carbon sequestration, water conservation, native species preservation, and sustainable livelihoods.

UN SUSTAINABLE DEVELOPMENT GOALS SUPPORTED: SDG 13, SDG 15



- UBL integrates climate considerations into its strategy through an ESG and Climate Risk Management Framework, embedding environmental risks into lending decisions, stress testing, and sectoral due diligence.
- The bank promotes sustainability via digital banking, energy-efficient operations, solarization of branches/ATMs, and resource conservation, reducing its operational footprint.
- UBL also supports the transition to a low-carbon economy through green financing, renewable energy investments, and net-zero commitments aligned with long-term climate goals.

UN SUSTAINABLE DEVELOPMENT GOALS SUPPORTED: SDG 7, SDG 13

- Hoechst Pakistan has implemented advanced water efficiency measures, including reuse of RO reject water, condensate recovery, and tertiary-treated wastewater, while achieving 100% effluent treatment with partial reuse for gardening. Real-time digital monitoring systems and leadership-level reviews ensure strong governance and efficient water management. Proactive risk assessment through water stress mapping and scenario analysis supports long-term resilience and sustainable water use.
- They have significantly expanded their renewable energy capacity to 2.4 MW solar (2025), now supplying around 25% of total electricity demand which has delivered measurable impact. Advanced energy management has ensured efficient operations, cost savings, and continuous sustainability improvements.

UN SUSTAINABLE DEVELOPMENT GOALS SUPPORTED: SDG 7, SDG 13

- UEP is committed to conserving natural resources and improving energy efficiency, with a focus on integrating renewable energy into operations. The company has implemented solar projects at key sites, including the Golarchi facility (23 kW) and Naimat POD (51 kW), collectively contributing around 85 kW of solar capacity. These systems include battery storage to ensure continuous power supply and reduce reliance on fuel-based generators.
- UEP actively tracks water consumption across operations using flowmeters and transport logs, with monthly trend analysis and strict quality testing through accredited labs. Follows Zero Industrial Liquid Discharge, treating ~95% of domestic wastewater via STPs, with ~70% reused, including a project at Naimat camp reducing water discharge by 40% (~700 m^3/month).

UN SUSTAINABLE DEVELOPMENT GOALS SUPPORTED: SDG 6, SDG 7, SDG 13

- Wafi promotes circular economy through innovative projects like using plastic waste in construction, diverting thousands of kilograms of plastic from landfill. Its efforts have resulted in over 85% of their waste being recycled or reused.
- Additionally, it supports sustainable entrepreneurship by funding and mentoring startups focused on waste-to-value solutions, biodegradable materials, and circular innovations annually.

UN SUSTAINABLE DEVELOPMENT GOALS SUPPORTED: SDG 9, SDG 12, SDG 14

- PGL integrates sustainability into its core strategy through its "3C's – Commitment for Climate & CARE", advancing a circular, low-carbon model supported by 4.3 MW solar capacity and strong waste recycling practices.
- The company drives environmental impact through large-scale initiatives including Miyawaki forests, mangrove and urban plantations (~70,000 plants), biodiversity hubs, and Waste2Education programs, alongside circular innovations like recycled materials and plastic reduction.
- Strong stakeholder engagement via "Climate Soldiers" and partnerships enables continuous monitoring, awareness campaigns, and community-driven sustainability projects, supporting its long-term net-zero 2050 ambition.

UN SUSTAINABLE DEVELOPMENT GOALS SUPPORTED: SDG 7, SDG 12, SDG 13, SDG 15

- KE integrates climate action into its strategy through its ESG Roadmap 2030, targeting a 20% reduction in Scope 1 emissions and increasing renewables to ~30% by adding ~1,282 MW capacity, supported by major infrastructure investments. It has conducted comprehensive climate risk assessments using GIS-based models and developed a Resilience Management Plan to address risks such as heatwaves, flooding, and sea-level rise.
- Through fuel transition (FO to RLNG), renewable integration, ISO-based energy management, and resilience projects, KE strengthens both sustainability performance and climate resilience.
- KE also places emphasis on circular economy through key initiatives including asset refurbishment, reuse of materials, composting, and paperless billing, generating cost savings while reducing waste and resource consumption. These resource efficiency efforts have resulted in 5.1% of total waste being recycled/reused.

UN SUSTAINABLE DEVELOPMENT GOALS SUPPORTED: SDG 7, SDG 9, SDG 12, SDG 13

- Jazz integrates climate action into its strategy through measurable ESG targets, including net-zero commitment and supplier ESG compliance, supported by strong governance and GRI-aligned reporting.
- It drives mitigation through energy efficiency, e-waste recycling, circular waste management, and nature-based solutions like the Jazz Carbon Sink (45,760 trees), reducing emissions and supporting green jobs. Through circular waste management, Jazz collected and recycled 3,615 kg of plastic into eco-bricks
- Climate resilience is strengthened via supplier engagement, fleet decarbonization, and a large-scale early warning system, reaching millions with real-time alerts to mitigate climate-related risks.

UN SUSTAINABLE DEVELOPMENT GOALS SUPPORTED: SDG 12, SDG 13, SDG 15

- IMC integrates climate action into its core strategy through EMS, a Five-Year Environment Action Plan, and leadership oversight aligned with Toyota's global carbon neutrality vision.
- It has advanced mitigation through 6.6 MW solar capacity, energy-efficient technologies, and 75% of its downstream dealerships being solar-powered.
- IMC have also expanded water recycling and reuse systems to reduce freshwater withdrawals and reinforce long-term water stewardship, resulting in 85% of its waste water being reused.

UN SUSTAINABLE DEVELOPMENT GOALS SUPPORTED: SDG 7, SDG 12, SDG 13

- Lucky Core has a 295 kW solar system that supplies up to 70% of the plant's electricity, reducing emissions by approximately 243 metric tons annually.
- Their energy efficiency is improved through HVAC optimization, LED lighting, preventive maintenance, and continuous monitoring of consumption trends.
- Employee awareness programs and data-driven analytics, including AI-based insights, support responsible energy use, predictive maintenance, and continuous performance improvement.

UN SUSTAINABLE DEVELOPMENT GOALS SUPPORTED: SDG 7, SDG 13

- Bayer advances climate action through low-emission agriculture solutions and packaging reduction initiatives, saving materials, emissions, and natural resources. With a focus on climate resilience, sustainable farming, and inclusive growth, Bayer supports environmental protection, food security, and reduced resource consumption globally.
- They also have an installed solar capacity of 108.2 KW across all their sites, powering one of their warehouses and R&D sites completely on renewable energy.

UN SUSTAINABLE DEVELOPMENT GOALS SUPPORTED: SDG 2, SDG 6, SDG 13, SDG 15

- Haleon has implemented circular economy initiatives such as packaging optimization, digital waste tracking, and equipment upcycling, to reduce waste and improve resource efficiency. As a result, over 90% of total waste is recycled, reused, or composted.
- They follow a comprehensive water stewardship strategy aligned with Alliance for Water Stewardship (AWS) CORE certification, achieving a 29% reduction in water use (2024) through efficiency projects like RO systems, condensate recovery, and smart water controls.
- Haleon also places emphasis on renewable energy generation, having an installed solar capacity of 1.8 MW, contributing 21% to its overall energy consumption.

UN SUSTAINABLE DEVELOPMENT GOALS SUPPORTED: SDG 6, SDG 12, SDG 13

- Attock Cement expanded its renewable energy portfolio to ~65.65 MW, comprising of solar and wind energy to contribute ~54% of total energy, significantly reducing carbon emissions and improving energy independence.
- Their operational efficiency is improved through advanced monitoring, predictive maintenance, LED upgrades, automation, and optimized load management, ensuring reduced energy losses and improved performance.
- Their AI-driven analytics and IoT systems enable real-time optimization, forecasting, and data-based decision-making, supporting higher energy yield, reliability, and long-term sustainability.

UN SUSTAINABLE DEVELOPMENT GOALS SUPPORTED: SDG 7, SDG 13

- MBL played a key role as Joint Financial and Shariah Advisor in launching Pakistan's first Sovereign Listed Green Sukuk of PKR ~32 billion, aligned with SDGs and Maqasid-e-Shariah. The proceeds are directly funding sustainable infrastructure projects, including Garuk Dam, Naigaj Dam, and a 26 MW hydropower project, supporting renewable energy and emission reduction.
- The Sukuk was a landmark issuance via PSX auction, demonstrating strong investor confidence and advancing sustainable finance in Pakistan.

UN SUSTAINABLE DEVELOPMENT GOALS SUPPORTED: SDG 7, SDG 9, SDG 13



TABLE OF ACRONYMS

Acronym	Full Form
ADB	Asian Development Bank
AQLI	Air Quality Life Index
ARE	Alternative & Renewable Energy
AWD	Alternate Wetting and Drying
AWS	Alliance for Water Stewardship
BESS	Battery Energy Storage System(s)
CBAM	Carbon Border Adjustment Mechanism
CCUS	Carbon Capture, Utilization and Storage
CDP	Carbon Disclosure Project
CIF	Climate Investment Funds
CLA	Community-Led Adaptation
COP	Conference of the Parties (to the UNFCCC)
CORE	Coalition for Resource Efficiency
CORSIA	Carbon Offsetting and Reduction Scheme for International Aviation
CPP	Climate Prosperity Plan (Pakistan)
CSR	Corporate Social Responsibility
CTAP	Climate Transition Action Plan
DBC	Delta Blue Carbon (Project)
DFIs	Development Finance Institutions
DISCOs	Distribution Companies
EPR	Extended Producer Responsibility
ESG	Environmental, Social and Governance
ETS	Emissions Trading System
GCF	Green Climate Fund
GEF	Global Environment Facility
GFANZ	Glasgow Financial Alliance for Net Zero
GGGI	Global Green Growth Institute
GH2	Green Hydrogen
GHG	Greenhouse Gas
GIZ	Deutsche Gesellschaft fur Internationale Zusammenarbeit (German Development Agency)
GLOF	Glacial Lake Outburst Flood
GTS	Groundwater/Green Treatment Stations (verify against source)
ICIMOD	International Centre for Integrated Mountain Development
IGCEP	Indicative Generation Capacity Expansion Plan
ISMO	(Independent) System and Market Operator
ISSB	International Sustainability Standards Board
ITMO	Internationally Transferred Mitigation Outcome

Acronym	Full Form
IUCN	International Union for Conservation of Nature
IWRM	Integrated Water Resources Management
JETP	Just Energy Transition Partnership
LBOD	Left Bank Outfall Drain
LEED	Leadership in Energy and Environmental Design
LMA	Loan Market Association
LULUCF	Land Use, Land-use Change and Forestry
MDB	Multilateral Development Bank
MoCC&EC	Ministry of Climate Change and Environmental Coordination
MRV	Measurement, Reporting, and Verification
NAP	National Adaptation Plan
NCCC	National Climate Change Council
NDC	Nationally Determined Contribution
NEECA	National Energy Efficiency & Conservation Authority
NEV	New Energy Vehicle
NGO	Non-Governmental Organization
NTDC	National Transmission and Dispatch Company
PAVE	(Punjab) Accelerated Vehicle Electrification
PCP	Program for Country Partnership (UNIDO)
PET	Polyethylene Terephthalate (plastic polymer)
PGT	Pakistan Green Taxonomy
PM2.5	Particulate Matter (2.5 micrometers)
PSDP	Public Sector Development Program
RPLC	Regenerative Production Landscape Collaborative
RUDA	Ravi Urban Development Authority
SAF	Sustainable Aviation Fuel
SDG	Sustainable Development Goal
SFP	Sustainable Farming Program
SME	Small and Medium Enterprise
SPAR6C	Systematic Program for the Analysis of Resilience 6 Countries
SSWMB	Sindh Solid Waste Management Board
TDPs	Temporary Dumping Points
UNEP	United Nations Environment Program
UNFCCC	United Nations Framework Convention on Climate Change
UNIDO	United Nations Industrial Development Organization
VCS	Verified Carbon Standard
VER	Verified Emission Reduction
WASH	Water, Sanitation and Hygiene
WMO	World Meteorological Organization

ACKNOWLEDGMENT OF THE ESG CORE TEAM'S CONTRIBUTION TO THE 4TH PAKISTAN CLIMATE CONFERENCE 2026

The Overseas Investors Chamber of Commerce & Industry (OICCI) extends its sincere appreciation to the ESG Core Team for their outstanding contributions to the successful planning and execution of the 4th Pakistan Climate Conference 2026.

Under the leadership of Jason Avanceña, Chief Executive Officer & Managing Director of Nestlé Pakistan, the ESG Core Team's collaborative efforts, strategic guidance, and steadfast commitment to sustainability were instrumental in delivering impactful dialogue and advancing actionable outcomes on climate resilience and sustainable development.

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4TH PAKISTAN CLIMATE CONFERENCE '26

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