Tracking MDBs Energy and Industry Policies

Pathways for a Just Transition in Pakistan

Alternate
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List of Abbreviations

ADB	Asian Development Bank
BISP	Benazir Income Support Programme
CAPEX	Capital expenditure
CO_2e	Carbon dioxide equivalent
COP	Conference of the Parties
CPS	Country Partnership Strategy
CRA	Climate Risk Assessment
CTBCM	Competitive Trading Bilateral Contract Market
DLI	Disbursement-Linked Indicator
DISCO	Electricity distribution company
DRI	Disbursement-Linked Result
EV	Electric Vehicle
GHG	Greenhouse Gas
GoP	Government of Pakistan
I&M	Inspection and Maintenance
IGCEP	Indicative Generation Capacity Expansion Plan
IFC	International Finance Corporation
IPP	Independent Power Producer
JT	Just Transition
KPI	Key Performance Indicator
MDB	Multilateral Development Bank
MEPS	Minimum Energy Performance Standards
M&V	Measurement and Verification
MIGA	Multilateral Investment Guarantee Agency
MoCCEC	Ministry of Climate Change and Environmental Coordination
MoF	Ministry of Finance

MRV	Measurement, Reporting and Verification
NCAP	National Clean Air Policy
NDC	Nationally Determined Contribution
NEECA	National Energy Efficiency & Conservation Authority
NEV	New Energy Vehicle
O&M	Operations and Maintenance
PBL	Policy-Based Lending
PGDP	Punjab Green Development Program
PM2.5	Fine particulate matter ≤ 2.5 micrometers
PPA	Power Purchase Agreement
QA/QC	Quality Assurance / Quality Control
SDG	Sustainable Development Goal
SLCP	Short-Lived Climate Pollutant
SME	Small and Medium-sized Enterprise
T&D	Transmission and Distribution
URAAN	Government of Pakistan development initiative (2024–29)
VRE	Variable Renewable Energy
WB	World Bank
WBG	World Bank Group

FOREWORD

Causing havoc more than once just in a couple of decades (2009, 2022 and 2025) who else can feel the pulse of climatic shifts better than Pakistan. Obviously, the whole world, particularly the developed world, is responsible for limiting global warming to net zero by 2050. Though it never means that Pakistan herself is absolved from its' adaptation and mitigation responsibilities, but it can do better and faster with the support of Multilateral Development Banks (MDBs), mainly the World Bank (WB) and the Asian Development Bank (ADB). Therefore, it is essential to keep track of Multilateral Development Banks' (MDBs) policies on energy conservation and industrial decarbonization in the country. The said assistance may accelerate its efforts to comply with its national and international targets. Industrial production, supply chains and fossil fuel powered energy are the protuberant culprits of Greenhouse Gas (GHGs) emissions, emanating turbulent climatic effects across the country and the region. Hence its integrity with the global and national policy implications deserves matching and monitoring.

In the study in hand, the Alternate Development Services (ADS) examines how multilateral MDBs, especially the WB and ADB, shape Pakistan's pathways toward industrial decarbonization and energy transition, contemporary and the prospective. The overarching objective of the report is to assess and analyze MDB frameworks, notably of the ADB's Country Partnership Strategy (CPS: 2021-2025) and the WB's Country Partnership Framework (CPF 2025-2035) against Pakistan's national climate plans and policies.

It examines the degree to which MDB policies and investments align with the country's homegrown climate and energy frameworks, such as the National Energy Efficiency and Conservation Policy (NEECA: 2023-2030), Nationally Determined Contributions (NDCs 3.0 -2025) and beyond, the National Clean Air Policy (NCAP-2023), National Adaptation Plan (NAP-2023), and most importantly Indicative Generation Capacity Expansion Plan (IGCEP: 2025-2035) and Independent System Market Operator (ISMO: 2024). Besides, the report appraises the just and equity dimensions of MDBs' decarbonization initiatives i.e how to render the transition inclusive, equitable, and economically viable for small businesses, and vulnerable rural and suburban communities. The gaps and alignment in terms of the country's commitments in terms of energy efficiency, clean energy, industrial decarbonization, and just energy transition are also observed. The report proposes engagement strategies for government, industry, and civil society to steer MDB financing toward equitable and climate-aligned outcomes. To gauge the situation on the ground, it also evaluates the implementation of the corresponding policies through a case study of the *Punjab Green Development Program (PGDP)*.

In commensuration, the ADB's CPS supports renewables, energy efficiency, resilience, and private sector reforms. Nonetheless, it lacks quantified milestones beyond 2025, an explicit just-transition framework, and integration with the carbon market and green taxonomy as proposed by the State Bank of Pakistan (SBP). Precisely, its approach to industrial decarbonization and adaptation remains fragmented and project-driven rather than systemic and holistic. Likewise, the WB's CPF (2025-2035) broadly aligns with Pakistan's IGCEP, NEECA, NDC and NCAP goals. However, progress on the ground is slow and unsystematic. The WB's target comprises 10 GW of renewable-energy capacity by 2035, 35% reduction in the exposure of the particulate matter, and resilience-building for 75 million people. There is a sort of mismatch in capacity versus generation, and limited focus on industrial energy-

efficiency depth. Insufficient provision of MRV (measurement, reporting and validation) mechanisms, weak planning and sequencing of market reforms, limited operationalization of just-transition safeguards are obvious.

Precisely, with respect to the policy landscape and conceptual framing, MDBs are the central players in global climate action financing, pledging to align their operations with the Paris Agreement (2016) but with imperfect contribution on the ground. Pakistan's major yet energy-intensive industries especially the steel, cement, sports, sugar, fertilizers and textile sectors are also vulnerable to both climate shocks and fuel-price volatility. Energy transition is essential, but just transition cannot be ignored implying that corresponding climate actions must prevent inequitable effects on low-income communities and preserve their livelihoods while promoting green skills and green jobs.

The study also examines how far environmental governance and green investments remain aligned with the national priorities. Say, NEECA's plans and preferences appear to be better aligned but are weak on adaptation, promoting renewable technologies, and building in social safeguards. A formal MRV protocol is missing. Grievance-redress mechanisms (GRMs) are either insignificant or simply are not there. Funded - national or international - just transition measures, green skillsets, reskilling or wage support interventions are insufficient. The MDBs' commitments sound to be stronger on systems and institutions but weaker on livelihood, equity integration and just transition assurances. In nutshell, MDB's alignment with Pakistan's climate financing seems improving but, by and large, remains partial and uneven. Both the Government of Pakistan and MDBs need to jointly comply just transition principles, integrate MRV, and mainstream equity safeguards to ensure that decarbonization initiatives not only lower emissions but also foster inclusive, people-centered and sustainable development.

The WB and ADB's CPF and CPS need to ring-fence operation and maintenance budget to preserve environmental assets and prioritize performance-based financing coupled with verified emission reductions and social protection. MRV needs to be embedded before monetizing the credible carbon markets. A kind of Just Transition Fund (JTF) should be introduced with the generation of green skills, wage insurance, and small and medium enterprises (SMEs) and diversification support. MDBs projects and other initiatives need to be conjoined with the SBP's Green Taxonomy and transparency strengthening through public dashboards.

Civil society, think tanks, climate change activists, advocacy groups and independent climate change and renewable energy experts must serve as a bridge and watchdog, ensuring MDB and government commitments are just, transparent and accountable. They also need to benchmark MDBs strategies against national goals and translate or make technical MDB documents more accessible for the general public and particularly for those affected by the energy transition interventions. They need to insist that disbursement-linked indicators (DLIs) are tied to environmental, social and governance (ESGs) outcomes too - not to the finances alone. Simultaneously, they need to arrange inclusive dialogues among government, MDBs, and affected or potentially affected communities as well.

Amjad Nazeer

EXECUTIVE SUMMARY

This study asks a practical question: how can the World Bank Group (WBG) and Asian Development Bank (ADB) help Pakistan shift to a low-carbon, competitive, and inclusive economy? Multilateral mandates emphasise renewables, efficiency, resilience, and clean air, yet country systems often point in differing directions: tariff structures and legacy contracts reward installed capacity rather than clean megawatt-hours; procurement rules privilege the lowest upfront cost over lifecycle Operations and Maintenance (O&M); fossil-fuel price signals undercut efficiency; and fragmented federal–provincial responsibilities create enforcement gaps. Where market reforms are sequenced without social instruments such as reskilling, wage insurance, place-based transition packages, outcomes are unfavourable.

The study analyses multilateral climate commitments and converts them into Pakistan-specific policy and investment options in the relevant decarbonization-linked sectors, using a just-transition frame. The analysis surfaces where frameworks talk past each other and recommendations are built to close the gap between what strategies ask for and what institutions can credibly deliver now.

Methodologically, the study carries out a coded review of multilateral and national documents including Pakistan's Nationally Determined Contributions (NDCs), Indicative Generation Capacity Expansion Plan (IGCEP) 2022–31/2024–34, National Energy Efficiency & Conservation Policy and Action Plan, National Clean Air Policy, carbon-market guidelines, and the National Adaptation Plan with alignment matrices for the WBG draft Country Partnership Framework (CPF, FY26–FY35) and ADB Country Partnership Strategy (CPS, 2021–25). It is complemented with a political-economy diagnostics that tests reform sequencing, institutional capacity, and distributional equity.

***Just transition* is an approach that maximises social and economic benefits from climate action while carefully managing any negative impacts.**

KEY HIGHLIGHTS

1. Directional alignment exists, but delivery hinges on metrics, sequencing, and social instruments: Both MDBs endorse renewables, efficiency, resilience, and cleaner air. However, targets are often framed around capacity (MW) rather than delivered clean energy (MWh), reform milestones lack realistic critical-path dependencies, and just-transition commitments are not yet operationalised at scale.
2. Pakistan's largest near-term mitigation and competitiveness wins are in power-system dispatchability and industrial deep retrofits: Storage, grid-forming capability, curtailment reduction, advanced metering and settlements, and loss reduction are preconditions for turning new capacity into real emissions cuts and lower costs. In industry, fewer, larger, metered retrofits in cement, steel, fertiliser, and textiles backed by guarantees and results-based finance will outperform dispersed small measures.
3. Resilience and air-quality co-benefits are material but under-specified: Climate-risk assessment, lifecycle Operations & Maintenance (O&M) financing, and provincial enforcement compacts are required to make adaptation, clean-air, and emissions

abatement durable, especially for brick kilns, municipal waste, open burning, and urban fleets.

4. Civil society has leverage when it pairs evidence with time-bound asks: A coalition-built shadow results framework, aligned with NDC and NAP, and a public scorecard culture around milestones can accelerate course-correction while preserving constructive engagement with MDBs and government.

FINDINGS BY INSTITUTION

World Bank Group

- Pace and metric mismatch: Capacity additions are highlighted more than dispatched clean energy. Without storage, grid-forming capability, and curtailment-reduction finance, MW targets may not translate into MWh outcomes.
- Reform sequencing risks: Competitive Trading Bilateral Contract Market (CTBCM) readiness presupposes metering, settlements, credit cover, and payment security. Absent time-bound operational milestones, arrears and contested tariffs may grow.
- Just transition instrumentation: Commitments are principled but light on concrete tools such as reskilling funds, wage-insurance pilots, place-based transition packages, and gender-responsive procurement in new green supply chains.
- MRV integrity and carbon markets: Registries and baselines are referenced, but harmonised methodologies, quality assurance and control, double-counting controls, and public readiness notes need to be front-loaded.
- Industrial Energy Efficiency depth: Credit lines and audits rarely deliver deep capital expenditure without performance-based procurement, robust M&V, and concessional risk-sharing.
- Air-quality delivery: Provincial enforcement and ring-fenced O&M for monitoring networks, kiln conversion, and fleets are the binding constraints.
- Budgets: Circular debt, take-or-pay PPAs, and under-recovery in tariffs deter private capital unless transaction-level de-risking is embedded.

Asian Development Bank

- Missing Interim targets aligned to IGCEP/NDC: Interim milestones for capacity additions, transmission and distribution (T&D) loss reduction, variable renewable energy (VRE) integration, and curtailment ceilings are missing.
- Weak link to NEECA 2023-30: Implementation mechanisms for Minimum Energy Performance Standards (MEPS) enforcement, building codes, Energy Management Systems, and demand response are not specified.
- Fragmented industrial decarbonisation: Dispersed small and medium-sized enterprise (SME) actions risk low aggregate impact without large, metered retrofits and results-based structures.
- Resilience not a design standard: Climate Risk Assessment and lifecycle O&M conditions are uneven across sectors.
- CTBCM operational bridge is thin: Lacks standard contracts, settlement/clearing, payment security, data transparency, and dispute resolution.

- Carbon markets and green taxonomy: No Article 6 roadmap and limited portfolio-wide climate-finance tagging.
- NCAP integration and just transition: Clean-air measures and labour, SME transition tools are not systematically embedded.
- Capital expenditure without O&M: Urban and environmental assets underperform without ring-fenced recurrent budgets.

POLICY RECOMMENDATIONS

Power system and markets

- Adopt generation-linked KPIs, mandatory curtailment reporting, and dedicated finance for storage and grid-forming capability with every renewable-energy package.
- Publish a CTBCM operational roadmap covering advanced metering, settlements, payment security and market monitoring;
- Issue a 2025–2030 milestone ladder with quarterly reporting on clean capacity additions, transmission and distribution losses, variable renewable integration, curtailment ceilings, and storage deployment.

Industrial decarbonisation and efficiency

- Prioritize fewer, larger, metered retrofits in cement, steel, fertiliser and textiles, financed via blended facilities, first-loss guarantees, and disbursement against verified tCO_2e reductions with robust measurement and verification.
- Align programmes with the National Energy Efficiency & Conservation Authority (NEECA) 2023–30 agenda: enforce Minimum Energy Performance Standards (MEPS), implement building codes, roll out Energy Management Systems, and pilot demand response with clear disbursement-linked indicators.

Carbon markets and climate finance integrity

- Require measurement, reporting and verification (MRV) before monetisation by publishing Paris Agreement Article 6 readiness notes, harmonised baselines, QA/QC, registry governance and authorisations.
- Establish portfolio-wide green-taxonomy tagging and public climate-finance dashboards across sovereign and non-sovereign windows, disaggregated by sector and province.

Governance, enforcement and transparency

- Address legacy liabilities such as circular debt, take-or-pay power-purchase agreements through transaction-specific solutions and publish debt-transparency dashboards to crowd in private capital.
- Provide a full CTBCM operations package: model contracts, metering and settlement systems, transparent market data, payment-security mechanisms and dispute-resolution protocols.

Resilience and clean-air mainstreaming

- Make Climate Risk Assessment (CRA) mandatory at concept and detailed design for all energy, transport, water and municipal projects; include climate-adjusted design criteria and

lifecycle O&M lines proportionate to risk, with performance clauses for service under design storms and heat extremes.

- Embed National Clean Air Policy (NCAP) measures and KPIs in sector operations; kiln conversion, freight modernisation, electrification/clean-fuel shift for two- and three-wheelers, elimination of open burning, and municipal waste system upgrades; track $PM_{2.5}$ and health co-benefits alongside GHG metrics.

Just transition safeguards

- Pair tariff reforms with Benazir Income Support Programme (BISP) top-ups and small and medium-sized enterprise (SME) support to protect affordability.
- Make worker and SME protections a condition of reform packages: sector-linked reskilling, wage-insurance pilots during tariff reforms, local transition funds in fossil-asset districts, and gender-responsive procurement in green supply chains; place these in disbursement-linked indicators to ensure uptake.

1. INTRODUCTION

1 INTRODUCTION

Multilateral Development Banks (MDBs) have emerged as one of the pivotal architects of the global decarbonization agenda, reshaping their lending portfolios, policy dialogues and fiduciary safeguards to align with the Paris Agreement's 1.5 °C pathway.

The translation of MDB mandates into on-the-ground transformational change is neither automatic nor guaranteed. Conditionalities embedded in development-policy loans, the political economy of energy subsidies, and the fragmented nature of Pakistan's federal–provincial governance can dilute climate ambition, while a rapid phase-out of coal and gas without viable alternatives risks stranded assets, job losses, and social unrest. Crafting an equitable pathway therefore requires proactive domestic engagement: evidence-based dialogue that calibrates MDB portfolios to Pakistan's just-transition imperatives, safeguards labour and gender inclusion, and incentivises technology transfer and local value creation.

For Pakistan, the stakes are particularly high. The economy remains vulnerable to climate shocks and exposed to volatile fuel imports. Steel, cement, and textiles, key export and employment anchors, are energy-intensive and emissions-heavy, yet also rich in cost-effective efficiency opportunities. The country's power system needs cleaner, cheaper generation, and a stronger grid to integrate renewables; industry needs modern equipment, waste-heat recovery, electrification and fuel-switching; workers and communities need credible just-transition plans so that modernization does not translate into displacement or exclusion.

The country's industry sector, dominated by steel, cement, and large-scale textiles, accounts for roughly 20 percent of national greenhouse-gas emissions[1] and consumes about 29 percent of its electricity.[2] Emission intensities in these subsectors are significantly higher than regional peers owing to ageing technology, fragmented supply chains, and inadequate enforcement of energy-efficiency standards. Meanwhile, historically Pakistan has faced power deficits, escalating fossil-fuel import bills and acute climate vulnerability as evidenced by the catastrophic 2022 and 2025 floods. Together, these factors underscore the urgency and complexity of aligning MDB financing streams with national decarbonisation priorities such as those articulated in the Nationally Determined Contributions (NDCs) and the National Energy Efficiency & Conservation Policy (2023).

Against this backdrop, the proposed study offers a timely diagnostic. It distils the evolving MDB frameworks, quantifies their fiscal and socio-economic implications, and delineate strategic entry-points through which Pakistani stakeholders, government, industry, and civil society, can build a decarbonisation agenda that is both ambitious and socially just.

[1] Government of Pakistan, Ministry of Climate Change and Environmental Coordination (MoCCEC). Pakistan's Biennial Transparency Report (BTR) 2024. MoCCEC, 2024

[2] National Transmission and Despatch Company (NTDC). Indicative Generation Capacity Expansion Plan (IGCEP) 2024–34. NTDC, April 2024.

1.1 Purpose of this Study

The central purpose of the study is to equip Pakistan's policymakers, industrial leaders, and civil-society advocates with an evidence base and a practical engagement toolkit that will enable them to steer World Bank and Asian Development Bank (ADB) financing toward an inclusive, competitive, and climate-aligned industrial future. By translating high-level MDB climate mandates into context-specific policy options and investment pathways, the study seeks to ensure that global decarbonisation ambitions translate into local economic opportunity, social protection, and resilience. Further, through the study, a better people-centric framework for the MDBs may be pursued in-line with their stated sustainability and equity objectives.

This study is designed to translate high-level MDB climate mandates into a Pakistan-specific roadmap for mitigation in energy and industry with the following specific objectives:

- Tracks and analyses the World Bank's Country Partnership Framework (CPF) and the Asian Development Bank's Country Partnership Strategy (CPS), clarifying what they actually commit on energy efficiency, just transition and climate resilience.
- Benchmarks those commitments against Pakistan's own plans and targets. These include NDC 3.0, IGCEP, the National Energy Efficiency and Conservation Action Plan, Clean Air and New Energy Vehicle Policies to identify where objectives align, where gaps remain, and where quick wins are possible.
- Examines delivery pathways so that national actors can convert strategy language into bankable pipelines.
- Assesses distributional impacts to ensure mitigation pathways support jobs, skills, and regional inclusion, consistent with a just transition.
- Sets out engagement strategies for government, industry associations, and civil society to influence CPF/CPS programming cycles and hold them accountable for results.

In framing the inquiry for Pakistan, the implication is straightforward: aligning sector reforms with MDB Paris-aligned priorities, preparing credible project pipelines in power and industry, and embedding social protections will not only increase the likelihood of MDB support; it will increase the quantity and quality of that support.

1.2 Study Design and Approach

This study adopts a mixed-methods design that integrates political-economy diagnostics, analysis of MDB operations, and validation. The approach is structured to trace a clear line of sight from evidence to decision-use. The design recognises that decarbonisation pathways are not only technical choices but also political and social bargains; it therefore combines document analysis and data with stakeholder perspectives and cross-country learning.

Conceptual Framing – Just Transition Political-Economy Lens

The analysis is anchored in a *just transition political-economy framework*, which examines how power relations, incentives, and distributional outcomes shape climate change outcomes. Four dimensions organise the inquiry: governance and institutional coherence; technology diffusion and capital flows; labour markets and social protection; and environmental integrity and safeguards. This framing helps the study move beyond abatement accounting to capture trade-offs between financial structuring, emissions outcomes, and social equity so recommendations are both technically credible and politically workable.

The study adopts the following research approach:

1. **Systematic Policy Tracking and Analysis**: Map and critically interrogate World Bank Group (WBG) and ADB policy instruments relevant to energy conservation and industrial decarbonisation, including country strategies, sector-policy frameworks between 2020-2025, with forward-looking insight into pipeline operations to 2030.
2. **Alignment Benchmarking with National Frameworks:** Develop an alignment matrix that cross-references MDB priorities with Pakistan's national policy architecture (NDC 3.0, IGCEP 2022–31/2024-34, National Energy Efficiency & Conservation Policy 2023, Draft Green Taxonomy, Draft National Energy Vehicle Policy 2025, URAAN Pakistan, and provincial policies). The matrix will highlight areas of convergence, partial alignment, and disconnect, providing a baseline against which progress can be measured over the coming decade.
3. **Gap and Bottleneck Identification:** Identify both MDB and government policy, institutional and financing gaps that impede the flow of MDB resources toward high-impact decarbonisation projects, such as fragmented governance between federal and provincial bodies, limited bankable project pipelines, and insufficient labour-market reskilling mechanisms.
4. **Just Transition and Social-Equity Safeguards:** Assess the distributional impacts of prospective MDB decarbonisation interventions on vulnerable worker cohorts and marginalised communities, and articulate policy safeguards—such as skills-transition funds, local content requirements, and gender-responsive procurement that can be incorporated into MDB project design and conditionality frameworks.
5. **Actionable Policy and Investment Recommendations:** Craft a menu card of evidence-backed recommendations addressed to industry and CSOs, providing advocacy messages, capacity-building needs, and partnership models.

1.2.1 Quality assurance and reproducibility

Findings are triangulated across sources through an explicit evidence-integration protocol. Patterns in literature are tested against narrative evidence from documents; where signals diverge, the report identifies the source and direction of discrepancy and explains its implications for policy choices.

2. CONCEPTUAL FRAMEWORK & POLICY LANDSCAPE

2 CONCEPTUAL FRAMEWORK and POLICY LANDSCAPE

Climate change is no longer a distant risk but a lived reality. The last decade has brought a clear rise in the frequency and intensity of weather-related disasters, underscoring the urgency of faster mitigation alongside better adaptation. The Paris Agreement set the direction, holding warming well below 2°C and pursuing 1.5°C, but progress has been uneven. Climate risk now ranks among the most consequential global threats over the coming decade, and current trajectories still point toward warming closer to 3°C by century's end, well beyond safe limits.[3]

Finance is the decisive constraint and while estimating needs is difficult, but all credible assessments agree that requirements far exceed the long-standing 100 billion-dollar benchmark. The energy system is the central arena: it accounts for roughly three-quarters of global emissions, with electricity and heat generation the single largest source. Despite notable progress, fossil fuels still provided about 80 percent of global energy between 2010 and 2020[4]; coal-fired generation even rose in absolute terms over that period. At the same time, energy poverty persists: hundreds of millions of people remain without access to electricity, primarily in Africa and Asia.[5] Investment in renewables reached a record of around 1.3 trillion dollars in 2022, yet needs to at least quadruple to keep a 1.5°C pathway within reach.[6] The largest gaps are in emerging economies and in early-stage low-carbon technologies—precisely where concessional capital and de-risking instruments are most powerful.

Mobilising and directing capital at the necessary scale requires a full toolkit including green bonds, blended-finance vehicles, carbon markets, impact and sustainability-linked finance, and a full cast of institutions: central banks and regulators, national development banks, private financiers, UN agencies, and Multilateral Development Banks (MDBs). MDBs with their development mandates, technical depth, and ability to crowd in private capital position them to shape country pathways, not just fund individual projects. Over recent years MDBs have committed to align operations with the Paris goals, to raise the share of climate-related lending, and to shift portfolios away from high-carbon assets.[7] Fossil-related approvals have fallen compared to the mid-2010s, though not to zero, another signal that strategic engagement at country level still determines whether portfolio shifts turn into durable sectoral change.

2.1 Multilateral Development Banks and climate finance

A large body of work explains why institutions like the World Bank and ADB exist in the first place: markets underinvest in public goods such as resilient infrastructure, clean power, and industrial

[3] United Nations Environment Programme (2023). Emissions Gap Report 2023: Broken Record – Temperatures hit new highs, yet world fails to cut emissions (again). Nairobi.
[4] Tze- Ang, Tze-Zhang, et al. "A comprehensive study of renewable energy sources: Classifications, challenges and suggestions." Energy strategy reviews 43 (2022): 100939.
[5] International Energy Agency; International Renewable Energy Agency; United Nations Statistics Division; World Bank; World Health Organization, 'Tracking SDG 7: The Energy Progress Report 2025', 2025.
[6] Ember, 'In 12 Months the Renewables Market Has Moved but Governments Have Not', 2024.
[7] Germanwatch & NewClimate Institute, 'Aligning Investments with the Paris Agreement Temperature Goal: Challenges and Opportunities for Multilateral Development Banks', working paper, 2018.

efficiency. MDBs step in to correct these failures with long-tenor finance, technical standards, and policy dialogue. Two broad views describe how they interact with private markets. In a catalytic view, MDB participation crowds in private capital by lowering risk and signalling quality. In a substitution view, MDBs step in where private finance does not participate, primarily in countries with limited market access or weak domestic banking systems. The empirical record shows elements of both. MDB involvement can reduce cancellation rates, improve project preparation, and anchor innovations in appraisal and procurement, yet crowd-in effects are uneven and depend on policy credibility, regulatory quality, and the availability of bankable pipelines.

Traditional aid-allocation debates distinguish between recipient need and donor interest. Over time, a third axis, recipient merit, entered the picture, linking support to policy and governance quality through instruments like development-policy financing, technical assistance, and capacity-building agreements. For climate mitigation, however, this framework needs a twist. Mitigation is a global public good: the benefits of a tonne of CO_2 avoided in Karachi accrue worldwide. That means mitigation finance should flow where the largest emissions cuts per dollar are achievable, while adaptation finance should target vulnerability. The practical implication is that MDBs must optimise mitigation impact without losing sight of country ownership, equity, and just-transition needs.

If mitigation money chases least-cost abatement alone, poorer countries could be sidelined. Conversely, allocating by need alone may deliver low impact. MDBs bridge this gap by pairing finance with risk-mitigation and market-building tools including guarantees, blended finance, results-based lending, viability-gap support so high-impact projects can proceed in tougher environments. Where institutions are weaker, MDBs can still be catalytic by improving the investment climate, standardising contracts, and de-risking early movers.

Energy is the central arena for MDB climate action: power and heat dominate global emissions, and industrial users are the largest energy consumers. The literature finds MDBs more likely to participate in renewable projects and in settings with clear government backing and regulatory clarity. Yet the amount of finance mobilized is not automatic; it rises when countries present credible roadmaps, stable rules, and robust pipelines, and when MDBs deploy the right instruments to share risk with private investors.

2.2 Just Transition

Originating within labour movements of the late 1970s, the idea of a "just transition" has become a central theme in climate policy discussions.[8] The International Labour Organization frames it as an approach that maximises social and economic benefits from climate action while carefully managing any negative impacts. The Global Commission on the Economy and Climate estimates that ambitious climate policies could unlock around USD 26 trillion in economic gains by 2030

[8] Gerrard, E. & Westoby, P. (2021). Chapter 2 What Is a Just Transition?. In L. Marais, P. Burger, M. Campbell, S. Denoon-Stevens & D. van Rooyen (Ed.), Coal and Energy in South Africa: Considering a Just Transition (pp. 22-33). Edinburgh: Edinburgh University Press.

compared with a business-as-usual scenario, and equitable transition measures are essential to realising these benefits.

Academic work underscores that just transition is as much about the processes leading to change as it is about the end results; Heffron and McCauley identify distributional, procedural, restorative, and recognition justice as its four core pillars. Rapid efforts to meet the Paris Agreement's goals are inevitable, yet past transitions have often been disruptive.[9] To soften such impacts, governments are increasingly weaving just transition principles into both near-term and long-term climate strategies, particularly their Nationally Determined Contributions (NDCs) and long-term low-emission development strategies (LT-LEDS).

Conceptualization of a just transition vary across countries and sectors, and each government needs a clear vision tailored to its workers, communities, and businesses. Well-designed policies can help achieve national climate objectives by securing broad public support, fostering a green-jobs revolution, laying the foundations for resilient net-zero economies through transparent and inclusive planning, driving locally informed solutions, and reinforcing the need for whole-of-society engagement.

Pakistan's just transition debate is increasingly framed through the lens championed by the ILO: climate action must advance alongside the protection of workers' rights and livelihoods. The literature stresses that energy transitions are not merely technical substitutions but social bargains that redistribute costs and benefits across classes, regions, and sectors. In Pakistan's case, the pressure of international oil-price volatility on the power system has spilled over into wages and household welfare, especially where conventional generation's rising capital and operating costs are passed through the economy. With a large share of employment outside formal contracts, the pain of higher energy costs is diffused yet deep, reaching both formal sector workers and the informal enterprises that depend on reliable, affordable power to produce goods and services.

Pakistan's headline ambition rests on concessional and grant finance. Without it, progress is likely to track only the "unconditional" portion of national targets; with it, deeper cuts become feasible. Just transition outcomes depend on accountability in two directions: domestically, to ensure worker protections and fair cost allocation; and internationally, to deliver affordable capital at the pace and scale required.

[9] Heffron, R. J., & McCauley, D. (2018). What is the 'just transition'? Geoforum, 88, 74–77.

3. MDB’S COMMITMENTS ON CLIMATE CHANGE MITIGATION AND JUST TRANSITION

3 MDB'S COMMITMENTS ON CLIMATE CHANGE MITIGATION

Over the past decade the global fight against climate change has moved from broad declarations to increasingly concrete action, and nowhere is this shift more visible than in the evolving mandates of Multilateral Development Banks. The World Bank Group and the Asian Development Bank now tie concessional finance, technical assistance, and policy dialogue directly to measurable progress on energy efficiency, clean-energy deployment and industrial decarbonization. For Pakistan, whose steel, cement, and textile sectors remain among the emissions-intensive, this emerging MDB agenda represents both an unprecedented opportunity and a significant governance challenge. It offers access to capital and know-how that can modernise factories, cut fuel import bills and open new export markets, yet it also raises difficult questions about jobs, competitiveness, and social justice if the transition is mishandled.

Pakistan has articulated several national climate-change and energy policies—including its Nationally Determined Contribution (NDC) 2021 and 2025 (soon to be published), National Adaptation Plan (NAP), Indicative Generation Capacity Expansion Plan (IGCEP), National Energy Efficiency and Conservation Action Plan, National Clean Air Policy, New Energy Vehicles (NEV) Policy, green taxonomy, carbon market guidelines, hazardous-waste policy, and market-oriented reforms such as privatization, Independent Power Producers (IPPs), and the Competitive Trading Bilateral Contract Market (CTBCM).

3.1 World Bank: Mapping Pakistan's Climate and Energy Policies to World Bank Country Partnership Framework (CPF 2025–2035) Targets

The World Bank Group's Country Partnership Framework for Pakistan (FY25–FY35) sets six development outcomes.

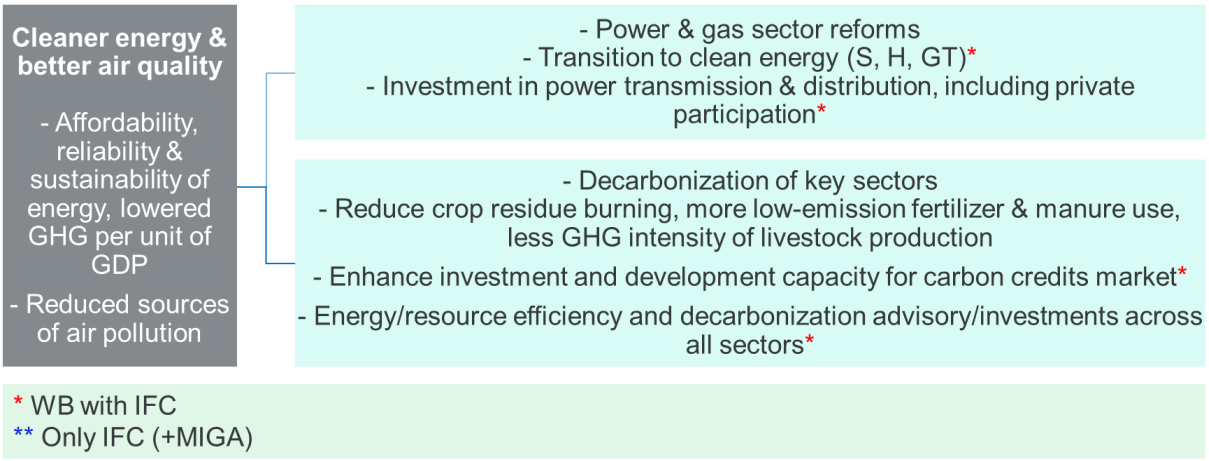
Table 1 WBG Country Partnership Framework Pakistan FY2026 – FY2035

1. Reduced Child Stunting
2. Reduced Learning Poverty
3. Increased Resilience to Climate Change
4. Cleaner Energy and Better Air Quality
5. More public resources for Inclusive Development
6. Increased Productive Private Investment

Two of these outcomes are directly related to climate change and energy: Outcome 3: Increased resilience to climate change and Outcome 4: Cleaner energy and better air quality. The CPF introduces decade-long targets (with interim 5-year milestones) and outlines interventions across public policy, investments, and private-sector engagement. Key targets relevant to climate and energy include enabling 10 GW of renewable energy capacity and reducing population-weighted PM2.5 exposure by 35 % over a decade by cutting average exposure from 55 µg/m^3 to 35 µg/m^3. For adaptation, the CPF aims to provide 30 million people with strengthened food and nutrition security

and 75 million people with enhanced resilience to climate-related disasters such as floods. These targets are supported by reforms such as power and gas sector reforms, opening the power sector to competition, and regulatory frameworks for improved air-quality management.

Figure 1 CPF Outcome 4: Cleaner Energy & Better Air Quality



3.1.1 Mapping of national targets to The World Bank Country Partnership Framework 2025–2035 targets

Table 2 Policy-alignment Matrix for the World Bank

Pakistan climate & energy target/policy	Relevant CPF targets and interventions (FY25–35)
Nationally Determined Contribution (NDC 2030) – cut projected GHG emissions by 50 % (15 % unconditional/35 % conditional)	
Mitigation	
• 60% electricity from renewables by 2030 (incl. hydro) • 8,000+ MW wind/solar • 30% EVs by 2030	• Enable 10 GW of renewable energy capacity by 2035 (with interim target of 4 GW in 5 years). The CPF highlights a focus on hydropower and solar as RE sources.
• Energy transition to renewable mix	• Support a transition to a cleaner, cheaper, and more sustainable energy system
• Phase-out of imported coal	• Coal phase-out is not identified in the strategy
• Energy efficiency and decarbonization in key sectors • Clean tech adoption	• Promote decarbonization through hydropower, solar, energy efficiency in industry, buildings, transport, agriculture, and geothermal
• Reduce T&D losses • Grid integration of RE and VRE	• Improve supply and demand efficiency in the energy sector, incl. T&D investments
• Industry energy efficiency • E-mobility adoption (30% target) • Sustainable building codes and green tech	• Promote energy efficiency, green manufacturing, e-mobility infrastructure, sustainable construction, and green finance instruments
Adaptation	
• Climate-smart agriculture	• Transformation of agriculture into a sustainable, water-resilient, and climate-resilient agri-food system, responding to droughts, floods, and heatwaves. • Support repurposing of inefficient subsidies toward public goods (research, extension, seed development, rural infrastructure). • Support climate-smart farming practices (crop diversification, drought-tolerant seeds, climate-adaptive farming).

Pakistan climate & energy target/policy	Relevant CPF targets and interventions (FY25–35)
	• Savings schemes, financial inclusion, and cash transfers are proposed as resilience mechanisms for smallholders.
• Water-efficient technologies	• Support sustainable water and irrigation management to increase agricultural productivity • Highlights efficient use of water resources, irrigation upgrades, and digitalised water management. • Policy reform priorities include water pricing and management and addressing distortions such as free/underpriced irrigation water.
• Integrated water resource management	• Efficient use of water resources, irrigation upgrades, and digitalised water management. • Policy reform priorities include water pricing and management and addressing distortions such as free/underpriced irrigation water.
• Resilient livelihoods • Climate-adaptive farming practices	• Promote market-driven, resource-efficient agri-food sector to improve resilience, income, and nutrition
• Resilient urban infrastructure	• Support climate-resilient urban infrastructure and adaptation investments in industry and construction
Finance, Markets, Institutional Reform, MRV	
• Regulatory frameworks for market-based instruments	• Advance power and gas sector reforms, including opening the power sector to competition
• Mobilization of climate finance	• Promotes sustainable financing banking practices to increase access to climate finance.
• Public-private partnerships • De-risking for private sector	• Explore and promote private sector investment in renewable energy and PPPs (via MIGA)
• Operationalization of Article 6 carbon markets • MRV, registry, and transparency systems	• Support carbon market development including MRV systems, registry, roadmaps for compliance and voluntary markets
Co-Benefits (Air Quality, Public Health, SLCP Reduction)	
• SLCP reduction in NDC sectors • Air quality co-benefits of mitigation measures	• Reduce population-weighted $PM_{2·5}$ exposure by 35% (from 55 to 35 $\mu g/m^3$)

Pakistan climate & energy target/policy	Relevant CPF targets and interventions (FY25–35)
• Integrated air quality and climate policy • Sectoral emissions control (agriculture, transport, industry, cooking fuels)	• Address multiple sources of air pollution through policy reforms and public investments
Cross-Cutting Priorities (Just Transition, SDGs, Inclusivity)	
• Social equity and inclusion principles in climate action • Emphasis on fair transition	• Ensure a "just" energy transition by protecting the poor and vulnerable and increasing energy access
• SDG coherence	• Align efforts with SDG11 (Sustainable Cities) and SDG13 (Climate Action), with a focus on responsible production and resilient infrastructure
National Adaptation Plan (NAP) – agriculture–water nexus & climate-resilient livelihoods	
Direct alignment with NAP Pillar 1: Agriculture and Food Security	• Strengthen food and nutrition security for 30 million people by 2035, with an interim target of 15 million by 2030.
Cross-cutting alignment across all NAP priority areas	• Enhance climate resilience for 75 million people by 2035, including 15 million by 2030.
NAP Pillar 1: Climate-Smart Agriculture and	• Repurpose agricultural subsidies to support public goods, promote climate-smart farming practices, improve water-use efficiency, and strengthen support for smallholder farmers.
NAP Pillar 2: Water Resources Management	• Support improvements in sustainable water and irrigation management
NAP Pillar 3: Disaster Risk Reduction and Pillar 4: Infrastructure Resilience	• Develop flood- and disaster-resilient infrastructure, expand early warning systems, and enhance climate-responsive social protection.
Indicative Generation Capacity Expansion Plan (IGCEP 2022-31/24-34) – 60 % renewables by 2031 (33 % hydro, 29 % variable renewables)	
• 60% share of renewable energy (incl. hydro) in power mix by 2031 • Significant expansion in variable renewable energy (VRE): 12.3% solar, 11% wind by 2031	• Enable 10 GW of renewable capacity by 2035 (via hydropower, solar, and geothermal).

Pakistan climate & energy target/policy	Relevant CPF targets and interventions (FY25–35)
• Reinforcement of T&D infrastructure to evacuate VRE • Reduce transmission constraints and system losses	• Investments in transmission and distribution (T&D) to reduce losses and improve geographic balance.
• Increased reliance on Independent Power Producers (IPPs) and private sector for RE development,	• Private sector participation in renewable energy and PPPs
• Competitive bidding for new RE capacity	• Regulatory and market reforms to open the power sector to competition
• Implementation of CTBCM (Competitive Trading Bilateral Contract Market) model	• Policy reform priorities include power and gas sector reforms to reduce losses, inefficient subsidies, and distortions, as well as to open the power sector to competition. • Regulatory framework and capacity to increase private sector participation in power T&D • Investments and reforms in T&D to reduce losses and geographical imbalances; IFC and WB to develop bankable frameworks for private sector investment in T&D. • Reforms to reduce high costs of generation, improve bill collection, and rationalise subsidies.
• Demand-side management and energy efficiency included as balancing mechanisms	• Promotion of energy efficiency in demand sectors (industry, buildings, transport, agriculture)
• Avoid over-capacity through efficiency gains	• Advisory and policy support to reduce sector's losses stemming from high costs of power generation, low bill collection, and T&D losses.
• Maintain affordability while meeting generation targets • Social equity in energy access	• Support a "just" transition to protect the poor and vulnerable and ensure increased access to energy. • Enhanced poverty and social inclusion analytics are needed to better understand the distributional impacts of energy subsidy reform and to improve the targeting and reach of compensatory cash transfers.

Pakistan climate & energy target/policy	Relevant CPF targets and interventions (FY25–35)
	• No structured Just Transition framework (skills retraining, reskilling displaced workers, SME diversification in fossil-intensive regions). • No clear financing mechanisms (e.g., Just Transition funds) to anchor social protection in MDB programs.
National Energy Efficiency & Conservation Action Plan (NEECA, 2023-30)	
Direct support to industrial energy efficiency targets	• Promotion of energy efficiency technologies and industrial decarbonization
Aligned with building and appliance labeling and MEPS in NEECA plan	• Adoption of energy-efficient buildings and appliances
Financial instruments aligned with EE investment priorities	• IFC green/sustainability-linked loans for resource-efficient manufacturing
Efficiency gains across power sector in line with NEECA's loss reduction goals	• Demand-side reforms to reduce sector losses and inefficient subsidies
Reinforces cross-sectoral efficiency and fuel-switching objectives	• Clean tech in transport, construction, residential cooking
National Clean Air Policy (NCAP)	
Core alignment with NCAP air quality targets	• Reduce population-weighted $PM_{2.5}$ by 35% (55→35 μg/m^3)
Supports NCAP's institutional and compliance mechanisms	• Regulatory frameworks for improved air quality management
Aligned with NCAP's high-impact abatement measures	• Clean tech and brick kiln conversion in industry
Cross-sectoral reduction of major emission sources	• Transport and cooking sector abatement (e-vehicles, LPG, induction stoves)
Supports NCAP's focus on open dumping and waste burning	• Wastewater and solid waste investments
Co-benefits emphasized in NCAP (especially for urban poor)	• Environmental health measures (linked to pollution, stunting)

Pakistan climate & energy target/policy	Relevant CPF targets and interventions (FY25–35)
Instruments compatible with SBP Green Taxonomy classification	• IFC/MIGA green and sustainability-linked loans
Supports transparency and reporting requirements of green finance	• Development of MRV system for tracking emissions reductions
Pakistan Policy Guidelines for Trading in Carbon Markets	
Core support to institutional readiness and implementation	• Development of carbon markets and MRV systems
Direct alignment with operational aspects of the guidelines	• World Bank support for registry and compliance/voluntary systems
Pipeline project support aligned with Article 6 readiness	• IFC/MIGA support for monetization of carbon credits (afforestation, blue carbon)
Aligned with monetization goals and integration into national reporting	• Exploration of carbon markets to fund emission reductions
National Hazardous Waste Management Policy (2022)	
Aligned with infrastructure targets under the policy	• Solid waste management and industrial wastewater treatment in urban/industrial areas
Promotes private participation models endorsed in policy	• PPP investments in water, wastewater, and waste management
Reinforces community-level waste management and health goals	• Support for improved sanitation and solid & animal waste management (WASH)
Enables industrial compliance and pollution control	• IFC financing for resource-efficient infrastructure
Privatization and SOE reforms	
Supports technical assistance and due diligence for SOE reform	• IFC advisory to enable private sector participation in SOEs
Incentivizes entry of private capital post-reform	• Enabling frameworks for bankable private investment in T&D and RE
Aligns with fiscal rationalization and improved performance of SOEs	• Policy reforms to reduce inefficient subsidies and costs in energy generation
Independent Power Producers (IPPs)	
Risk mitigation directly aligned with IPP promotion	• MIGA guarantees for hydropower and other renewable IPPs

Pakistan climate & energy target/policy	Relevant CPF targets and interventions (FY25–35)
Supports project development aligned with IGCEP and IPP frameworks	• Private sector participation in new RE projects
Reduces financial risk and supports CTBCM-compatible PPAs	• Reforms to open power sector to competition
Competitive Trading Bilateral Contract Market (CTBCM)	
Structural reforms supporting CTBCM roll-out	• Supports power and gas sector reforms to open the market to competition
Institutional support for CTBCM functioning	• The CPF does not explicitly mention strengthening the Market Operator (CPPA-G), NEPRA's CTBCM regulatory unit, or the IT/systems infrastructure needed for market operations, settlement, and dispute resolution
Facilitates investor confidence in market liberalization	• IFC/MIGA de-risking for private investment in open power markets

3.1.2 Critical Analysis

Gap 1: Pace and metric mismatches

The WBG's country strategy is directionally aligned with Pakistan's climate and energy policy architecture—particularly the NDC 3.0, IGCEP 2022–31/2024–34, the National Energy Efficiency and Conservation framework, and the National Clean Air Policy. However, a first tension lies in how ambition is framed. Pakistan's targets emphasise clean generation shares by 2030 and system reliability; WBG formulations privilege capacity additions over dispatched clean energy and extend the horizon (for example enabling large gigawatt additions by 2035). This creates the risk of meeting capacity milestones without converting them into proportional low-carbon generation, particularly if storage, grid-forming capability, and curtailment reduction are not financed alongside new megawatts. In short: alignment in direction, misalignment in pace and metric.

Advocacy action: Seek generation-linked KPIs (clean MWh delivered), mandatory curtailment reporting, and earmarked finance for storage and grid-forming inverters as conditions accompanying any new renewable capacity.

Gap 2: Reform sequencing risks

The Bank's strong support for grid modernisation, CTBCM implementation, IPP risk rebalancing, and T&D loss reduction is fully consistent with Pakistan's reform agenda, but the sequencing burden remains under-specified. Wholesale market opening presupposes advanced metering, a robust settlements backbone, credit-risk arrangements, and credible payment security. Without a realistic phasing, reform can outpace institutional capacity, inviting arrears and contested tariff adjustments. The practical wedge between policy and delivery widens further where tariff reforms proceed without synchronised social-protection top-ups for vulnerable households and SMEs, dulling political acceptability.

Advocacy action: Request a time-bound CTBCM roadmap with milestones for metering, settlements and payment security, and pair tariff reforms with pre-agreed social offsets through strengthened safety nets and SME support.

Gap 3: Thin operationalisation of just-transition measures

The Bank's language on a just transition is principled but light on instruments. Pakistan's labour-market structure, with large informal employment and exposure to energy-price shocks, requires worker-centred tools embedded in operations: reskilling tied to sector decarbonisation plans, wage-insurance pilots during tariff reforms, place-based transition funds around fossil-asset clusters, and gender-responsive procurement in new green supply chains. Stated alignment is credible; delivery will depend on financing these protections at scale.

Advocacy action: Propose a just-transition package in relevant operations such as reskilling funds, wage-insurance pilots, local transition funds, and gender-responsive procurement with disbursement-linked indicators tied to verified uptake.

Gap 4: Carbon markets and MRV integrity

On carbon markets and MRV, the WBG's emphasis on registries, baselines, and Article 6 readiness is textually aligned with Pakistan's green taxonomy and carbon-market guidelines. However, without harmonised baselines, QA/QC protocols, and double-counting controls, expectations of carbon

monetisation can outstrip the country's ability to issue bankable credits at scale. The strategy should therefore front-load MRV quality and governance, then link to monetisation pathways.

Advocacy action: Insist on "MRV before monetisation", baseline harmonisation, QA/QC, registry governance, and benefit-sharing provisions as upfront conditions, with public Article 6 readiness notes before crediting.

Gap 5: Energy-efficiency depth in industry

Energy efficiency is an area where alignment exists, but depth is uneven. The Bank's support for industrial EE, building codes, appliance standards, and utility-side loss reduction mirrors the NEECA agenda, yet uptake in energy-intensive industries (cement, steel, fertiliser, large textiles) remains thin. Audits and credit lines rarely translate into deep-retrofit capital expenditure without performance-based procurement, robust M&V, and concessional risk-sharing that crowd in private finance. In the absence of these features, portfolios risk dispersing across many small measures with modest aggregate impact.

Advocacy action: Call for performance-based retrofit programmes with M&V-linked disbursements, partial-risk/first-loss guarantees, and results-based climate finance tied to verified tCO_2e reductions.

Gap 6: Air-quality delivery constraints

On air quality and short-lived climate pollutants, the WBG's objectives to reduce population-weighted $PM_{2·5}$ align with the NCAP. The binding constraint is provincial enforcement and operations and maintenance financing, especially for brick kilns, municipal solid waste, and urban transport fleets. Without ring-fenced O&M and inspection capacity, capital investments will not yield durable $PM_{2·5}$ reductions.

Advocacy action: Secure provincial enforcement compacts and ring-fenced O&M budgets for WB-financed assets, with compliance-based disbursement conditions and quarterly public reporting of enforcement actions.

Gap 7: Balance-sheet risks undermining private capital

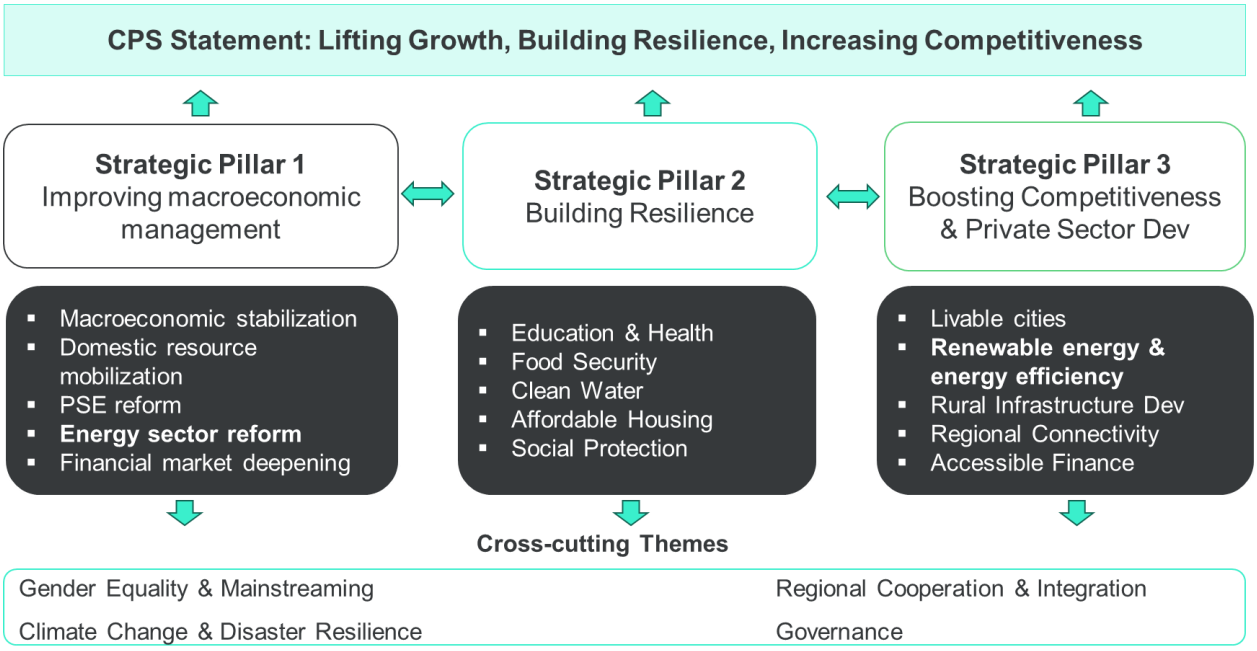
The WBG's support for SOE reform and private participation aligns with national intentions. Yet legacy liabilities such as circular debt, take-or-pay PPAs, or under-recovery in tariffs are central risk drivers. Unless operations explicitly neutralise these balance-sheet landmines, private capital will remain cautious or demand high risk premia. Programmatic support must pair enabling frameworks with transaction-level solutions to historic exposures.

Advocacy action: Press for transaction-specific de-risking and public debt-transparency dashboards to crowd in private investment at lower pricing.

3.2 Asian Development Bank: Mapping Pakistan's Climate-Change & Energy Targets to ADB's Country Partnership Strategy (CPS) 2021-2025

The Country Partnership Strategy (CPS) is anchored in the overarching objective of lifting growth, building resilience, and increasing competitiveness. It is structured around three strategic pillars. The first focuses on improving macroeconomic management by stabilizing the economy, strengthening domestic resource mobilization, reforming state-owned enterprises, advancing energy sector reforms, and deepening financial markets. The second pillar emphasizes building resilience, particularly through investments in education, health, food security, clean water, affordable housing, and social protection systems. The third pillar centres on boosting competitiveness and private sector development, supporting liveable cities, expanding renewable energy and energy efficiency, strengthening rural infrastructure and regional connectivity, and enhancing access to finance.

Figure 2 Country Partnership Strategy (2021-25) Asian Development Bank



These pillars are underpinned by cross-cutting themes of gender equality, climate change and disaster resilience, regional cooperation, and governance. Together, they provide an integrated framework for sustainable development, linking economic stability with social inclusion and climate-smart growth.

The table below maps Pakistan's key climate-change and energy targets to commitments and outcome indicators in ADB's Country Partnership Strategy (CPS) 2021-2025 (Pakistan). It uses official sources for each target and recent policy developments.

Table 3 Policy Alignment Matrix for the Asian Development Bank

Pakistan climate & energy target/policy	Relevant ADB CPS interventions (2021–25)
Nationally Determined Contribution (NDC 2030) – cut projected GHG emissions by 50 % (15 % unconditional/35 % conditional)	
Mitigation	
• 60% electricity from renewables by 2030 • 8,000+ MW wind/solar	• Promote renewable energy (wind, solar, hydropower) & energy efficiency; supports grid & off-grid solutions • Renewable energy (solar and wind) capacity increased to 15% of total power supply capacity by 2025 (2018 baseline: 7.2%) • Focus on solar, wind, and hydropower (domestic/indigenous sources). • Explore geothermal (surface heating/cooling) and distributed generation models. • Off-grid and rural electrification constituting power supply to about 30% of the population by 2025 • CPS does not articulate longer-term RE milestones (2030, 2035), nor does it specify MW additions by technology beyond the percentage share target.
• 30% EVs by 2030	• The CPS does not articulate EV adoption or charging infrastructure targets despite on-going investments in this.
• Energy transition to renewable mix	• Renewable energy (solar and wind) capacity increased to 15% of total power supply capacity by 2025 (2018 baseline: 7.2%) • Reforms will strengthen financial sustainability and governance while mitigating inefficiencies through renewable energy deployment and technological interventions. • CPS explicitly positions gas as part of the transition mix, not as something to be phased out.
• Phase-out of imported coal	• No explicit commitment to phase out coal, retire plants, or support just transition in coal regions.

Pakistan climate & energy target/policy	Relevant ADB CPS interventions (2021–25)
• Energy efficiency and decarbonization in key sectors • Clean tech adoption	• Highlights energy efficiency and conservation, industrial decarbonization, low-carbon energy and mass transit
• Reduce T&D losses • Grid integration of RE and VRE	• Plans to modernize power sector: net metering, modernize National Power Control Center & improve purchasing agency efficiency
• Industry energy efficiency	• Recognised but treated in broad strokes mainly as part of energy reform, industrial decarbonisation, and competitiveness support • No concrete metrics, sectoral focus, and alignment with national EE policies
• Building Codes	• No commitment to supporting the development, enforcement, or scaling of Pakistan's Energy Conservation Building Codes (ECBCs)
Adaptation	
• Climate-smart agriculture	• Although CSA is not labelled directly, the following components mentioned are part of it: Enhance agricultural productivity; Strengthen agri-value chains; Improve climate-resilient water storage and irrigation systems. • Develop rural infrastructure to reduce post-harvest losses and support higher-value crops. • Improve climate-resilient water storage (surface, groundwater, harvesting). • No quantified CSA adoption targets (e.g., % farms adopting CSA practices, hectares under climate-resilient crops).
• Water-efficient technologies • Integrated water resource management	• Invests in climate-resilient water storage & irrigation upgrades; improves water governance and supports modern agriculture
• Resilient livelihoods • Climate-adaptive farming practices	• Strengthens agricultural value chains and rural connectivity; irrigation improvements support resilient livelihoods
• Resilient urban infrastructure • Climate-proofing of development investments	• Builds liveable cities with sustainable transport, water and sanitation; integrates climate resilience and disaster risk management

Pakistan climate & energy target/policy	Relevant ADB CPS interventions (2021–25)
Finance, Markets, Institutional Reform, MRV	
• Regulatory frameworks for market-based instruments	• CPS does not explicitly mention carbon markets, emissions trading schemes, or regulatory frameworks for market-based climate instruments.
• Mobilization of climate finance • Public-private partnerships • De-risking for private sector	Supports private sector investment in renewable energy; explores public–private partnerships
• Operationalization of Article 6 carbon markets	• No reference to Article 6 readiness, carbon crediting, or domestic green taxonomies
• MRV, registry, and transparency systems	• Does not explicitly mention MRV systems, GHG registries, or transparency frameworks for climate/energy sectors.
Co-Benefits (Air Quality, Public Health, SLCP Reduction)	Renewable energy and energy efficiency improve air quality; mass transit and waste management support public health
• SLCP reduction in NDC sectors • Air quality co-benefits of mitigation measures	• Low-carbon energy and transport reduce air pollution, but no SLCP targets • Air quality is treated as a co-benefit, not as an integrated policy track.
• Sectoral emissions control (agriculture, transport, industry, cooking fuels)	• Promotes mass transit systems: bus rapid transit (BRT), non-motorized transport (walking/cycling). • Push for livable cities with smart mobility, digital payments, charged parking • Crosscutting climate priorities mention mitigation via low-carbon urban transport.
Cross-Cutting Priorities (Just Transition, SDGs, Inclusivity)	
• Social equity and inclusion principles in climate action	CPS promotes women's economic empowerment and inclusive growth
• Just Transition	The country strategy does not identify "just transition" as an issue or agenda to incorporate in its strategy.

Pakistan climate & energy target/policy	Relevant ADB CPS interventions (2021–25)
National Adaptation Plan (NAP) – agriculture–water nexus and climate-resilient livelihoods	
Direct alignment with NAP Pillar 1: Agriculture and Food Security	Strengthens agricultural value chains, agri-logistics centers and rural roads
Cross-cutting alignment across all NAP priority areas	Addresses climate resilience, disaster risk management, gender equality and governance
NAP Pillar 1: Climate-Smart Agriculture	Invests in climate-resilient irrigation, water storage and improved water governance
NAP Pillar 2: Water Resources Management	Maintenance and operational management of water resource systems.
NAP Pillar 3: Disaster Risk Reduction and Pillar 4: Infrastructure Resilience	Strengthens flood risk management, supports National Disaster Risk Management Fund and solid waste management
Indicative Generation Capacity Expansion Plan (IGCEP 2022-31/24-34) – 60 % renewables by 2031 (33 % hydro, 29 % variable renewables) .	
• 60% share of renewable energy (incl. hydro) in power mix by 2031 • Significant expansion in VRE: 12.3% solar, 11% wind by 2031	• Promote renewable energy (wind, solar, hydropower) and energy efficiency; supports grid and off-grid solutions • Renewable energy (solar and wind) capacity increased to 15% of total power supply capacity by 2025 (2018 baseline: 7.2%) • Off-grid and rural electrification constituting power supply to about 30% of the population by 2025 • CPS does not articulate longer-term RE milestones (2030, 2035), nor does it specify MW additions by technology beyond the percentage share target.
• Reinforcement of TandD infrastructure to evacuate VRE • Reduce transmission constraints and system losses	Plans to modernize power sector (net metering, control center, market operator)
• Increased reliance on Independent Power Producers (IPPs) and private sector for RE development	Attracts private sector investment in renewable energy and explores PPPs
• Demand-side management and energy efficiency included as balancing mechanisms	Emphasises energy efficiency and conservation to reduce costs and improve sustainability

Pakistan climate & energy target/policy	Relevant ADB CPS interventions (2021–25)
• Avoid over-capacity through efficiency gains	
• Maintain affordability while meeting generation targets • Social equity in energy access	Focus on reducing electricity cost and providing reliable, affordable power via indigenous gas and renewables; promotes women's access to services
• Grid resilience to climate events • Infrastructure planning for extreme weather scenarios (implicit in long-term planning)	Strengthens adaptation and disaster risk management including climate-resilient infrastructure
National Energy Efficiency and Conservation Action Plan (NEECA, 2023-30)	
Direct support to industrial energy efficiency targets	Promotes industrial energy efficiency and decarbonization
Financial instruments aligned with EE investment priorities	Attracts financing for renewable energy and efficiency via private investment and bonds
Efficiency gains across power sector in line with NEECA's loss reduction goals	Modernizing the power sector and net metering improve efficiency
Reinforces cross-sectoral efficiency and fuel-switching objectives	Encourages low-carbon transport (mass transit) and renewable energy adoption
National Clean Air Policy (NCAP)	
Core alignment with NCAP air quality targets	No explicit clean air or air quality governance program
Supports NCAP's institutional and compliance mechanisms	Not available
Aligned with NCAP's high-impact abatement measures	Not available
Cross-sectoral reduction of major emission sources	Renewable energy, energy efficiency, mass transit and waste management reduce emissions
Supports NCAP's focus on open dumping and waste burning	Upgrades solid waste management and provides safe water in cities and towns
Pakistan Policy Guidelines for Trading in Carbon Markets	
Core support to institutional readiness and implementation	Not available
Direct alignment with operational aspects of the guidelines	Not available

Pakistan climate & energy target/policy	Relevant ADB CPS interventions (2021–25)
Pipeline project support aligned with Article 6 readiness	Not available
Aligned with monetization goals and integration into national reporting	Not available
National Hazardous Waste Management Policy (2022)	
Aligned with infrastructure targets under the policy	• Investments in solid waste management and industrial wastewater treatment partially aligned
Promotes private participation models endorsed in policy	• Explores PPPs and private sector participation in waste management
Reinforces community-level waste management and health goals	• Invests in safe water and sanitation, improving community health
Enables industrial compliance and pollution control	• Modernises infrastructure and encourages resource-efficient manufacturing
Privatization and SOE reforms	
Supports technical assistance and due diligence for SOE reform	• Reforms and capacity building noted but details limited
Incentivizes entry of private capital post-reform	• Attracts private sector investment in energy and supply chain finance
Aligns with fiscal rationalization and improved performance of SOEs	• Combines reforms with investments to improve sustainability and reduce costs
Competitive Trading Bilateral Contract Market (CTBCM)	
Structural reforms supporting CTBCM roll-out	• More efficient tariff regime and subsidy management. • Mitigating systemic inefficiencies in generation, transmission, and distribution. • Strengthening institutional and regulatory governance. • Modernising the National Power Control Center (NPCC) – Pakistan's system operator. • Making the Central Power Purchasing Agency (CPPA-G, the market operator) more efficient.

Pakistan climate & energy target/policy	Relevant ADB CPS interventions (2021–25)
Institutional support for CTBCM functioning	• Supports the enabling reforms and institutional strengthening needed by does not spell out CTBCM implementation steps (e.g., bilateral contract settlement systems, dispute resolution, market surveillance, IT/settlement platforms).
Facilitates investor confidence in market liberalization	• Attracts private investment and expands financing opportunities • Combines reforms with investments to improve market efficiency and competitiveness

3.2.1 Critical Analysis

Gap 1: No time-bound ladder to 2025 that mirrors national plans

The CPS supports renewables and efficiency and recognizes transmission and system-management constraints. Missing are interim, quantified milestones to 2025 for capacity additions, T&D loss reduction, variable-renewable integration, and curtailment thresholds that reflect IGCEP and NDC trajectories. Without waypoints and a credible path to competitive market operations, circular debt, capacity payments, and affordability concerns will continue to depress competitiveness and crowd out fiscal space.

Advocacy action: Request a published milestone ladder for the upcoming CPS (till 2030) with quarterly reporting. Include targets for net clean capacity commissioned, curtailment ceilings, loss-reduction steps, and storage or grid-forming capability, linked to disbursement.

Gap 2: Weak alignment with NEECA 2023–30 on energy efficiency

Energy efficiency is referenced, but there is no direct alignment to NEECA targets or an implementation mechanism for Minimum Energy Performance Standards (MEPS), building codes, industrial energy-management systems, and demand response. This keeps system costs elevated, slows emissions reduction, and forfeits the cheapest kilowatt-hour.

Advocacy action: Tie CPS outcomes to NEECA indicators. Finance MEPS enforcement, accredited testing, market surveillance, and customs controls. Add building-code implementation support, and demand-response pilots, with disbursement-linked indicators.

Gap 3: Fragmented approach to industrial decarbonization

High-impact abatement requires large, metered retrofits, heat electrification or fuel switching, and process optimization, backed by concessional finance and guarantees. Absent performance-linked disbursement and robust M&V, programmes disperse across many SMEs with limited aggregate reductions.

Advocacy action: Prioritise fewer, larger, verifiable retrofits in cement, steel, fertiliser, and textiles. Use results-based climate finance, first-loss tranches, and partial-risk guarantees. Make disbursement contingent on verified tCO_2e reductions and sub-metered savings.

Gap 4: Resilience not embedded as a standard across sectors

The CPS funds irrigation, storage, flood risk management, and urban services, yet resilience is not consistently applied in transport, energy, water, and municipal investments. Climate-risk screening and lifecycle O&M financing conditions are not uniform, leaving asset reliability under extreme weather at risk.

Advocacy action: Require climate-risk assessment at concept and detailed design for all projects, a resilience annex in bidding documents, and ring-fenced O&M based on risk ratings.

Gap 5: Institutional fragmentation limits adaptation gains

Water security, flood risk reduction, early warning, and climate-smart agriculture mirror the NAP, but project-level achievements do not compound into system resilience due to fragmented water governance and limited social-protection targeting capacity.

Advocacy action: Finance district-level asset-management plans and shock-responsive social-protection triggers. Make data interoperability and institutional MOUs conditions for disbursement.

Gap 6: Bridge from policy-based lending to CTBCM operations is weak

Support for tariff and subsidy reform and some market-operator modernization exists, but operational readiness for CTBCM is under-specified. Without standard contracts, settlement systems, market-data transparency, payment security, and dispute resolution, market opening will stall.

Advocacy action: Add a CTBCM operations package: model PPAs, metering and settlements, credit cover and escrow arrangements, market monitoring, and a dispute-resolution protocol. Link tranche releases to operational tests.

Gap 7: No pathway to Article 6 readiness and MRV integrity

There is no plan for registry strengthening, sectoral baselines, or integration with voluntary and compliance markets.

Advocacy action: Establish an Article 6 readiness roadmap that covers registry governance, baselines, QA and QC, authorisations, and benefit-sharing. Publish readiness notes before any monetisation claims.

Gap 8: Absent links to the Green Taxonomy and portfolio tagging

There are no explicit links to Pakistan's emerging green taxonomy or a system to tag, track, and report climate finance across sovereign and non-sovereign portfolios, which weakens credibility with investors.

Advocacy action: Require taxonomy-consistent tagging and public dashboards for climate-finance volumes, expected emissions benefits, and alignment with national targets, disaggregated by sector and province.

Gap 9: NCAP not integrated into sector operations

The CPS does not explicitly weave National Clean Air Policy priorities into energy, transport, and municipal operations. Without integrated abatement planning for brick kilns, two- and three-wheelers, and open burning, Pakistan forfeits major public-health and productivity co-benefits.

Advocacy action: Embed NCAP measures and KPIs in project designs and CPS results. Finance kiln conversion, e-three-wheelers with clean-power guarantees, waste-to-collection and landfill gas capture, and residue-burning alternatives.

Gap 10: No just transition framework

Gender is recognised, but there is no structured approach to manage labour, regional, and SME impacts of decarbonisation. Without skills mapping, reskilling funds, and social-protection triggers, political-economy risks can slow reforms and erode inclusivity.

Advocacy action: Create a just-transition package that includes sector-linked reskilling, wage-insurance pilots during tariff reforms, local transition funds in affected districts, SME retrofit support, and gender-responsive procurement.

Gap 11: Capital-expenditure without O&M

Urban and environmental operations align with policy, yet often lack ring-fenced O&M and regulatory staffing. Provincial budgets frequently lack ring-fenced funds and regulatory staffing to operate and enforce new assets.

Advocacy action: Hard-wire recurrent financing through budget-support conditions or service-level agreements. Add inspection-capacity building and DLIs tied to O&M execution, compliance rates, and uptime of monitoring systems.

4. PROJECT SPECIFIC ANALYSIS: PUNJAB GREEN DEVELOPMENT PROGRAM (PGDP)

4 PROJECT SPECIFIC ANALYSIS

A core objective of this study is to move beyond high-level strategy alignment and examine how MDB commitments play out in practice. Country strategies and partnership frameworks frequently reference Pakistan's NDC, NAP, IGCEP, and related national policies. Yet such references often remain abstract, lacking quantified milestones, credible MRV systems, or embedded just-transition safeguards. To understand whether MDB engagement is truly delivering against climate and development priorities, it is essential to interrogate programs at the project level too.

Project-level assessments serve three purposes within the broader research agenda. First, they provide granular evidence of how MDB financing is operationalised and whether disbursement conditions incentivise outcomes or merely track outputs. Second, they allow for comparative benchmarking, showing where programs such as the Punjab Green Development Program (PGDP) align strongly with Pakistan's frameworks. Third, they generate actionable insights that can feed into advocacy in terms of identifying specific reforms, safeguards, or financing adjustments that civil society can advocate for in MDB country missions and policy dialogues.

By combining policy-level mapping with detailed project assessments, the research ensures that findings are not confined to rhetorical alignment but grounded in actual practice. This dual approach strengthens the study's contribution to the broader agenda of steering MDB engagement toward a climate-aligned, equitable industrial transition in Pakistan, while equipping policymakers, civil society, and MDB staff with evidence-based recommendations that bridge the gap between ambition and delivery. It also provides the precedence for future studies to follow this mode and method of investigation.

4.1 Punjab Green Development Program (GDP)

The World Bank's Punjab Green Development Program (PGDP, PforR) was conceived to strengthen environmental governance in Punjab and catalyse green investments across priority sectors. Its design aimed to emphasize systems and results—regulatory capacity, monitoring and disclosure, compliance improvements, and resource-efficiency measures in public institutions and industry—rather than stand-alone civil works. This orientation was geared towards a province seeking durable, institution-centred environmental gains. The program covers two areas: (a) strengthening environmental governance, and (b) promoting green investments.

Early implementation, however, was uneven; by January 2020 only about US$23.8 million (roughly 12% of the US$200 million envelope) had been disbursed, and the project was rated "moderately unsatisfactory."[10] Several performance gaps underpinned that rating: limited progress on disclosure and citizen-engagement targets; weak delivery against plastics management and compliance objectives; underperformance in public-sector energy-efficiency investments and vehicle-emission enforcement; slow mobilisation of green finance; and stagnation in monitoring infrastructure, among others.[11]

[10] https://tribune.com.pk/story/2134659/green-project-termed-moderately-unsatisfactory
[11] Ibid.

A mid-course correction followed. The operation was restructured to address bottlenecks and clarify delivery pathways: additional implementing agencies were brought in; activities were expanded; the Results Framework and DLIs were refined; the closing date was extended; and the Program Action Plan (PAP) was updated. Subsequent supervision upgraded the PDO and implementation progress ratings back to "moderately satisfactory", reflecting tangible movement on institutional and investment actions.[12]

Despite recent course corrections that have resolved several foundational design issues, the Punjab Green Development Program (PGDP) still leaves critical questions unanswered. This analysis therefore interrogates the programme along three axes including policy coherence, safeguards effectiveness, and finance/market structuring, to surface where and why it diverges in line with the analytical framework adopted for this study. The aim is not merely to catalogue shortcomings, but to pinpoint practical adjustments that would align programs like PGDP with an equitable, climate-aligned transition and strengthen its credibility with stakeholders.

The project was assessed across three blocks—Policy, Safeguards, and Finance/Markets—with each dimension tested against sub-criteria derived from the analytical framework of this study. Table 4 below summarises the scoring:

Table 4 Summary of Project Assessment

Block	Dimension	Sub-test	Score
Policy	NDC – Mitigation	2.5 / 4	0.63
	NAP – Adaptation	1 / 4	0.25
	IGCEP – Renewables	1.5 / 4	0.38
	NEECA – Energy Efficiency	3.5 / 4	0.88
Safeguards	Env & Soc Safeguards (ESSA/PAP)	4 / 4	1.00
	GRM efficacy	0.5 / 4	0.13
	Just Transition	0.5 / 4	0.13
Finance/Markets	Bankability balance	1.5 / 4	0.38
	Carbon markets / MRV integrity	1.5 / 4	0.38

Bucket	Component dimensions	Average score	Weight	Weighted contribution
Policy	NDC, NAP, IGCEP, NEECA	0.53	40%	0.21
Safeguards	ESSA/PAP, GRM, JT	0.42	30%	0.13
Finance/Markets	Bankability, MRV	0.38	30%	0.11
Overall composite				**0.45 (45%)**

(Refer to annex 1 for detailed project analysis tables)

[12] https://documents1.worldbank.org/curated/en/516221591040941785/pdf/Disclosable-Version-of-the-ISR-Punjab-Green-Development-Program-P165388-Sequence-No-05.pdf

Policy alignment averaged 0.53, contributing 0.21 to the composite score (40% weight). While NEECA-related energy efficiency interventions scored highly (0.88), other areas such as NAP–Adaptation (0.25) and IGCEP–Renewables (0.38) reveal serious gaps in ambition and scope.

Safeguards averaged 0.42, reflecting a strong ESSA/PAP framework (1.00) but critical weaknesses in grievance redress (0.13) and just-transition design (0.13). This undermines both social legitimacy and citizen engagement.

Finance and market structuring averaged 0.38, revealing that while some bankability elements were evident (0.38), MRV and carbon-market integrity remain underdeveloped.

The overall composite score of 0.45 (45%) positions PGDP at the lower end of "partial alignment," signalling that while design adjustments have corrected some course, the program remains well short of the benchmarks needed for a credible, climate-aligned transition.

4.1.1 Discussion and Analysis

Despite its ambition, the Punjab Green Development Program (PGDP) demonstrates a set of systemic weaknesses that undermine its credibility as a transformative climate-finance operation. At the core of these weaknesses lies the absence of a transparent, program-wide measurement, reporting, and verification (MRV) protocol. While avoided emissions are tracked (12,672 tCO_2e to date against a 34,000 target), no published framework sets baselines, defines quality-assurance procedures, or specifies verification roles. This omission limits replicability and forecloses the possibility of generating bankable carbon credits in the future.

Equally significant is the gap in just-transition measures. Micro-enterprise support and SME adoption of resource-efficient technologies are progressing, yet there are no funded provisions for worker reskilling, wage support during tariff or asset transitions, or supplier-transition assistance for SMEs in fossil-exposed clusters. In a province where a large share of the workforce is informal and directly affected by energy-price shocks, this omission risks exacerbating inequities and undermines WB's commitments to equity and inclusion.

The program's safeguards framework, though available on paper through the ESSA and Program Action Plan, has not yet translated into effective accountability mechanisms. Institutional structures, such as the SPIU's social cell, are in place, but the grievance-redress system remains rudimentary—limited to formal references without multi-channel access, time-bound procedures, or public reporting. Communities therefore lack visibility into whether their concerns are acknowledged or acted upon, creating a trust deficit between project authorities and citizens.

Alignment with National Frameworks and Policy Gaps

NDC – Mitigation: The PGDP contributes to mitigation by tracking avoided emissions, with ISR data showing 12,672 tCO_2e avoided compared to a target of 34,000 tCO_2e by 2025. This indicates that monitoring is operational. However, the program does not publish a province-wide MRV protocol that sets out baseline methodologies, quality assurance/quality control (QA/QC) procedures, or third-party verification roles. The result is that while emissions reductions are counted for internal

reporting, they are not replicable across sectors nor bankable in carbon markets. Without institutionalised MRV systems, PGDP's reported reductions remain limited to program-level performance and cannot be validated under Article 6 or voluntary carbon frameworks. This creates a credibility gap between program reporting and Pakistan's NDC ambition.

NAP – *Adaptation*: Adaptation benefits remain incidental because PGDP lacks explicit climate-risk screening of infrastructure, resilience budgeting, or measurable adaptation KPIs within the results framework. Without these elements, investments risk being undermined by climate-related shocks and fail to systematically advance NAP priorities on water security, climate-smart agriculture, or resilient urban services. This limits PGDP's contribution to long-term adaptation dividends.

IGCEP: PGDP's renewable-energy investments focus mainly on rooftop solar in public-sector institutions, which are expected to yield modest reductions in grid demand and emissions. While this aligns directionally with Pakistan's energy transition, the scale is marginal relative to IGCEP 2022–31 targets that emphasise large-scale integration of variable renewable energy (VRE). Critically, PGDP does not address systemic challenges such as dispatchability, storage deployment, or curtailment reduction—issues that determine whether renewables are not just installed but actually dispatched into the grid. This mismatch highlights a broader MDB pattern of prioritising "demonstrable" but small-scale interventions, rather than systemic reforms needed to unlock renewable penetration at scale.

NEECA – Energy Efficiency: The strongest area of alignment is with NEECA's efficiency agenda. ISR data show that PGDP has supported energy-saving investments in public-sector buildings, with energy savings recorded at 7.5 GWh against a 40 GWh target. In addition, SMEs in Punjab have invested USD 3.6 million in adopting resource-efficient and cleaner production (RECP) technologies, supported by PGDP interventions. This demonstrates traction and partial alignment with NEECA's cross-sectoral efficiency goals. However, the ambition remains concentrated in smaller measures rather than systemic industrial retrofits. Without concessional risk-sharing, robust monitoring and verification (M&V), and performance-based procurement, efficiency gains may remain scattered and modest in aggregate impact.

Safeguards and Equity

Institutional Arrangements

The establishment of a Strategic Planning and Implementation Unit (SPIU) within the Punjab Environmental Protection Department, including a dedicated social cell, demonstrates that institutional capacity has been created. Staffing is reportedly adequate, and environmental and social specialists have been engaged. These steps are consistent with good practice and represent progress in embedding safeguards into provincial systems.

Just Transition and Inclusion

The most significant gap lies in the absence of a just-transition framework. Although PGDP provides some micro-enterprise support and financing for SMEs to adopt cleaner technologies, there are no dedicated instruments for workers who may be displaced or negatively affected by energy-price reforms and industrial restructuring. Worker reskilling, temporary wage insurance, and SME supplier-

transition grants are absent from the design. In a province with a large informal workforce highly exposed to energy shocks, this omission risks exacerbating socio-economic inequalities. It also leaves MDB commitments to equity and inclusion unfulfilled in practice.

GRM

Reference to grievance channels exists, but no evidence of closed-loop systems, multi-channel access, or public reporting is found. This limits accountability to affected communities. These weaknesses in GRM and *just transition* reduce institutional credibility. They signal to citizens that MDB projects may deliver infrastructure but are less attentive to livelihoods and fairness, thereby undermining social legitimacy. For MDBs whose strategies emphasize equity and inclusion, this represents a credibility gap that civil society is increasingly positioned to highlight.

- Multi-channel access refers to the ability of citizens to file complaints through different means—such as in-person offices, telephone hotlines, SMS, email, or web portals. A well-functioning GRM lowers barriers by offering multiple entry points. PGDP has not demonstrated evidence of such diversity; complaints appear restricted to formal office submissions.
- Closed-loop case tracking means that complaints are logged, assigned a tracking number, and followed through until resolution, with updates provided to the complainant. This ensures accountability and prevents grievances from being ignored or left unresolved. There is no indication that PGDP's system maintains such tracking.
- Public reporting involves the publication of periodic statistics on the number of complaints received, resolved, and pending. This transparency builds community trust and allows external stakeholders to monitor responsiveness. PGDP has not disclosed such data.

Without these features, the GRM functions more as a procedural requirement than a genuine accountability tool. Communities are left uncertain whether their concerns are acknowledged, processed, or resolved. Safeguards are often the linchpin of program legitimacy. By leaving GRMs rudimentary, consultations shallow, and just-transition measures unfunded, PGDP risks being perceived as a technocratic exercise that is attentive to systems but inattentive to livelihoods. This perception erodes community trust and weakens the social license required for durable environmental reforms. For MDBs and provincial authorities alike, credibility depends not only on technical delivery but also on whether citizens see themselves as protected, consulted, and included in the transition process.

Box 1 Global Models: South Africa's Just Energy Transition Partnership[13]

South Africa's Just Energy Transition Partnership (JETP).
Launched in 2021 as a landmark multi-donor initiative, the JETP brought together South Africa, the World Bank, ADB, AfDB, and bilateral partners including France, Germany, the UK, the US, and the EU. With an initial financing envelope of USD 8.5 billion, the partnership aimed to accelerate South Africa's coal-to-renewables transition while safeguarding communities dependent on the coal economy. A defining feature of the JETP is the creation of a ring-fenced Just Transition Fund, explicitly mandated to channel resources to vulnerable groups. The fund has three main instruments:

- Wage insurance and social protection, which cushions coal workers from income shocks during mine closures and power-plant decommissioning. Workers receive temporary top-ups that bridge the gap between lost wages and alternative employment.
- Reskilling and training programs, targeted at aligning displaced workers with employment opportunities in renewable-energy projects, grid expansion, and new industrial value chains. These programs are linked to specific regional investment pipelines, ensuring training corresponds to real jobs.
- SME transition assistance, designed to help small enterprises in coal-dependent towns diversify into new activities such as green manufacturing, construction, and services supporting the clean-energy sector.

Equity and inclusivity have been embedded through procurement rules requiring that a set percentage of contracts are awarded to women-owned enterprises, alongside efforts to incorporate youth-led businesses into the supply chain. This not only addresses gender disparities but also broadens the local economic base of the transition.
Transparency has been central to maintaining public trust. Regular public reports disclose how funds are allocated, the number of workers reskilled, SMEs supported, and the status of grievance redress. This open reporting has made it possible for civil society, unions, and local communities to monitor whether promised protections are delivered, thereby enhancing accountability.

Financial Architecture and Market Readiness

PGDP references green finance and future monetization but has not delivered the foundational MRV architecture necessary to generate bankable credits. Without sectoral baselines, QA/QC procedures, and registry governance, Pakistan risks over-promising on carbon revenues and under-delivering in practice. The reputational consequences—both for the province and for MDB credibility—could be significant. A "MRV-before-monetisation" approach is therefore essential: MDBs should first finance and verify the integrity infrastructure, then support crediting once systems are in place. Although green finance facilities and private-sector leverage are evident, disbursements remain tied primarily to outputs rather than environmental and social milestones. Carbon externalities and public-health co-benefits are not yet priced into appraisals.

[13] Just Energy Transition Project Management Unit (JET PMU), 'Just Energy Transition Implementation Plan (JETIP) – Quarterly Progress Report, 30 June 2025', 2025. Available at: https://justenergytransition.co.za/wp-content/uploads/2025/08/Jet-IP-Quarterly-Report-30-June-2025-1.pdf

5. DISCUSSION ON ROLE OF CIVIL SOCIETY

5 DISCUSSION ON ROLE OF CIVIL SOCIETY

Pakistan's engagement with multilateral development banks (MDBs) sits at the intersection of ambitious national commitments such as the NDC 3.0, the National Adaptation Plan (NAP), the Indicative Generation Capacity Expansion Plan, the National Energy Efficiency and Conservation agenda, the National Clean Air Policy (NCAP), and the realities of program delivery. MDB-financed operations, including the World Bank's Punjab Green Development Program (PGDP), are framed to advance emission reduction, cleaner air, resilience, and green investment. Yet once these intentions are translated into projects and disbursement rules, ambition often contracts: political-economy trade-offs, institutional bottlenecks, and risk-averse financing tend to dilute transformation into incremental gains. Structural constraints including circular debt, weak MRV systems, limited O&M budgets, and the absence of just-transition instruments fuel this phenomenon.

This context generates a durable dilemma for civil society organizations (CSOs). If they align too closely with MDB narratives, they risk being absorbed into incrementalism and losing credibility with affected communities. If they adopt a purely oppositional stance, they forfeit access to MDB–government spaces where critical decisions on design, sequencing, and disbursement conditions are made. A further asymmetry compounds the dilemma: MDBs and government agencies command deep technical resources and financial leverage, while CSOs often operate with constrained capacity and fragmented mandates, particularly on specialized topics.

Within this terrain, think-tanks and advocacy institutions act as essential intermediaries. They can benchmark MDB strategies against national frameworks; translate technical instruments (DLIs, PAPs, ESSA findings, CTBCM sequencing) into accessible narratives for communities, journalists, and legislators; convene multi-stakeholder forums that insert provincial and industry perspectives into MDB programming; and pursue oversight functions that link disbursement to measurable safeguards (closed-loop GRMs, ring-fenced O&M, robust MRV). The strategic task for civil society is therefore twofold: articulate a sequenced engagement framework—short-term transparency and MRV integrity; medium-term reform sequencing and resilience mainstreaming; long-term just transition and equity safeguards—and operationalize it through specific actions targeted at both MDBs and government counterparts, so that alignment on paper becomes performance in practice.

Role of think-tanks and advocacy institutions

Within this challenging landscape, think tanks and advocacy institutions emerge as critical intermediaries. They bridge the gap between the technical detail of MDB operations and the accountability demands of citizens and communities. Their contribution is multidimensional:

a. Knowledge production and policy benchmarking: Think tanks can undertake systematic analyses of MDB strategies and operations, benchmarking them against national frameworks such as NDC 2030, IGCEP 2022–31/2024–34, the NEECA Action Plan, NAP, Green Taxonomy, and provincial climate policies. This helps highlight where stated alignment is strong, where it is only nominal, and where significant gaps remain.

b. Translation and dissemination: The technical language of MDB project documents such as Disbursement-Linked Indicators (DLIs), Program Action Plans (PAPs), or ESSA findings is rarely accessible (and not timely published) to grassroots organizations or the general public. Advocacy institutions play the role of translators, converting these complex design features into narratives that communities, journalists, and legislators can understand. This translation makes MDB operations more transparent and accessible, fostering a wider debate on whether project outcomes meet citizens' needs.

c. Convening and dialogue facilitation: Think tanks have the convening power to bring diverse stakeholders into a common dialogue space—government agencies, MDB country teams, industry associations, and civil society organizations. Through structured roundtables, policy dialogues, or citizens' juries, they can insert local perspectives into MDB program design and monitoring. This ensures that grievances are heard upstream, rather than only through formal grievance-redress mechanisms once implementation problems arise.

d. Accountability and oversight functions: Civil society can play a watchdog role by demanding measurable safeguards within MDB projects. For instance, CSOs can advocate that disbursement tranches in energy projects be linked not only to infrastructure delivery but also to the operationalization of reskilling programs, O&M ring-fencing for environmental assets, or publication of carbon-credit registries. By tracking delivery against these metrics and publicizing the results, civil society enhances accountability for both MDBs and government counterparts.

e. Normative framing and social equity: Advocacy institutions ensure that climate action is not divorced from questions of equity and justice. They can argue that MDB support must include explicit provisions for vulnerable groups—such as reskilling and wage insurance for workers affected by energy transitions, gender-responsive procurement for green supply chains, and targeted social-protection offsets linked to tariff reforms. This normative pressure pushes MDBs to embed just-transition principles into operational practice, rather than leaving them as rhetorical commitments.

5.1 Areas of Engagement for the Civil Society

Civil society in Pakistan has a unique opportunity to act as both watchdog and partner in shaping the country's engagement with the multilateral development banks (MDBs). To ensure that financing translates into outcomes consistent with Pakistan's climate and development priorities, advocacy must address three horizons: immediate actions to enhance transparency and accountability, medium-term measures to improve reform sequencing, institutional durability, and resilience, and long-term campaigns to embed just transition, equity safeguards, and adaptive mechanisms at the heart of operations.

5.1.1 Integrating National Frameworks into MDB Programming

Civil society organizations should prepare accessible, evidence-based briefs demonstrating that weak integration of the NDC, NAP, IGCEP and SDG priorities erodes Pakistan's policy credibility and dilutes MDB climate commitments and weakens their position in climate negotiations. Each identified gap should be translated into a succinct "policy-ask" dossier, sequenced to MDB country-

mission calendars. In parallel, a coalition-developed shadow results framework for the CPF/CPS, explicitly anchored in NDC and NAP targets, should serve as an independent yardstick for monitoring progress. Scenario analysis should be used to show how stronger alignment around energy efficiency and renewables would influence fiscal sustainability, end-user tariffs and emissions trajectories. Civil society can also propose interim milestones that mirror national plans—such as a 10% reduction in transmission and distribution losses, climate-resilient irrigation extended to two million hectares, and a 15% renewable share of installed capacity—and track delivery through publicly available MDB scorecards. Complementary policy articles in domestic think-tank outlets should frame the same gaps as missed opportunities for growth, competitiveness and resilience.

World Bank focus within this strand

The civil society should advocate for generation-linked performance indicators (clean megawatt-hours delivered) and routine reporting on curtailment, paired with financing for storage and grid-forming capabilities alongside any new renewable capacity. A sequenced roadmap for CTBCM implementation covering metering, settlements, and payment-security arrangements with time-bound milestones should be requested, with tariff reforms phased in lockstep with targeted social protection (e.g., BISP) and SME support to preserve affordability and competitiveness. On carbon markets, the priority is "MRV before monetization": establish baselines, QA/QC protocols and registry governance prior to credit issuance, with transparent updates on Article 6 readiness. For industrial decarbonization, civil society should promote large, performance-based retrofit programmes in cement, steel, fertilizer and textiles, underpinned by robust measurement and verification.

ADB focus within this strand

Engagement with ADB should center on a ladder of 2025-2030 milestones consistent with the national frameworks in terms of capacity additions, reductions in T&D losses, curtailment thresholds, and variable renewable integration, subject to quarterly public reporting. Alignment with the National Energy Efficiency and Conservation Action Plan (2023–30) should be emphasised, including enforcement of minimum energy-performance standards, implementation of building codes, deployment of industrial energy-management systems, and development of demand-response markets. Civil society should also encourage a strategic shift toward fewer, larger, metered retrofits with disbursements linked to verified performance, supported by concessional finance and risk-sharing instruments.

5.1.2 Broadening Stakeholder Engagement Beyond the Federal Level

A federal-centric approach is insufficient in a devolved governance system. To build genuine ownership and accelerate uptake, civil society organisations should organise multi-stakeholder working groups around the practical roll-out of the Competitive Trading Bilateral Contract Market, the adoption of the New Energy Vehicle policy, and the design and operation of provincial climate funds. These platforms should convene federal and provincial authorities, regulators, industry associations, utilities, labour representatives and local governments. Well-structured federal and provincial roundtables can translate subnational priorities into country programming and produce consensus statements that give MDB country missions clear, consolidated signals on what is implementable and when.

World Bank specific engagement priorities

Civil society should encourage provincial enforcement agreements for air-quality management and short-lived climate pollutant abatement. Where World Bank financed assets are deployed, such as monitoring networks, brick-kiln retrofits and low-emission transport fleets, CSOs should seek ring-fenced budgets for operations, maintenance and inspectorates, and link progress to disbursement conditions. At the same time, they should promote transaction-level solutions to circular debt accumulation and take-or-pay obligations in independent power producer contracts. Public debt-transparency dashboards at provincial and utility levels would further improve risk visibility and help crowd in private capital.

ADB specific engagement priorities

Engagement with ADB should prioritise district-level asset-management plans and integrated data systems for water governance and climate resilience, together with shock-responsive triggers in social-protection programmes embedded in adaptation operations. CSOs should also advocate operational support for CTBCM that goes beyond policy lending. This includes standardised contracts, settlement and clearing systems, practical dispute-resolution protocols, and routine market-data transparency. Disbursements should be tied to the functioning of payment-security mechanisms so that market reforms translate into credible, investable transactions at the provincial and utility levels.

5.1.3 Championing Emerging Climate Finance Instruments

Civil society should position itself as a catalyst for credible, investable climate finance by advancing a practical readiness agenda for carbon markets and by strengthening the quality of green-finance deployment. A priority is Article 6 readiness. This requires MDB-financed foundations to be in place before any monetisation claims are made. The essentials include a national carbon registry that is interoperable with international systems, robust measurement, reporting and verification protocols, and sectoral baseline methodologies for high-emitting activities such as cement, steel, fertiliser and textiles, standardized across the provinces and federating units. Readiness also covers legal authorisations for transfers, rules for corresponding adjustments, clear benefit-sharing with host communities, data governance and safeguards against double-counting. In parallel, civil society

should encourage full alignment of MDB portfolios with Pakistan's Green Taxonomy through transparent climate-finance tagging, public reporting by sector and province, and do-no-significant-harm checks that screen out activities incompatible with decarbonisation pathways.

World Bank specific engagement priorities

Civil society should request that operations include a clear MRV charter. This would define data sources, verification responsibilities, and audit frequency, and would require publication of an Article 6 readiness note for relevant sectors. The note should demonstrate that baselines and additionality tests are appropriate to local conditions, that QA and QC procedures are in place, and that registry governance is operational before any crediting is claimed. Where projects are likely to generate credits, operations should include clauses on benefit-sharing, grievance redress for affected communities, and provisions for corresponding adjustments. For industrial decarbonisation, civil society can encourage the use of results-based climate-finance windows, performance-linked credit lines and guarantees that reward verified upgrades such as waste-heat recovery, high-efficiency motors and kilns, clinker substitution, electrification of process heat where feasible, and digital monitoring solutions that support continuous MRV.

ADB specific engagement priorities

Engagement with ADB should emphasize portfolio-wide climate-finance tagging consistent with the Green Taxonomy, with public dashboards that show tagged volumes, expected emissions benefits and alignment with national targets. For Article 6-related activities, civil society should advocate independent QA and QC audits that validate baseline methodologies, registry protocols and authorisation processes prior to any issuance or transfer. Disbursements should be linked to verified outcomes, for example tCO_2e reduced, clean megawatt-hours delivered, and percentage improvements in energy intensity. Standardised documentation for performance contracts, settlement procedures and disclosure requirements will help scale transactions, lower due-diligence costs and create a transparent pipeline that private financiers can underwrite.

5.1.4 Strategic Messaging and International Leverage

Civil society should position Pakistan as a credible pilot for innovative MDB approaches that blend concessional capital with market instruments and that integrate Article 6 transactions into country programming. The communications strategy should present Pakistan's engagement with MDBs as a test case for financing a just transition and climate resilience at scale, not merely as a collection of projects. Narratives targeted to international media and leading policy platforms should explain why Pakistan's industrial mix, energy security constraints, and social protection architecture make it an ideal setting to prove models that others can replicate. Each public message should link Pakistan's asks to imminent global decision points, including Financing for Development, the annual climate conference, and the SDG stocktake, thereby raising reputational stakes and compressing delivery timelines. In parallel, advocacy briefs for government negotiators should frame MDB engagement as a component of a broader global financing strategy that combines domestic reform with access to guarantees, results-based climate finance, and carbon-market revenues. The objective is to convert

international visibility into practical leverage that accelerates approvals, aligns instruments with national plans, and secures explicit commitments on social safeguards.

World Bank specific messaging

For the World Bank, the core message is that credibility depends on measurable delivery in the power and industrial sectors. Communications should call for performance indicators that are tied to clean electricity actually delivered to the grid, together with regular reporting on curtailment and storage deployment so that variable renewables remain dispatchable. Messages should emphasise a sequenced roadmap for the competitive power market, including metering, settlements, and payment security, since market readiness determines whether private capital can enter at scale. Any reform with (electricity) tariff implications should be paired with social offsets through strengthened social protection and targeted SME support, which protects affordability and competitiveness. Integrity of measurement, reporting, and verification must be non-negotiable where carbon benefits are claimed, and a *just-transition* package should accompany any major restructuring that affects workers or local economies.

ADB specific messaging

For ADB, the emphasis should be on time-bound delivery to 2025 milestones that reflect national targets, including capacity additions, loss reduction, curtailment thresholds, and the practical integration of variable renewables. Messages should underline alignment with the national energy-efficiency plan, including enforcement of performance standards, building-code implementation, and industrial energy-management systems. Climate-risk screening should be mandatory across operations, with explicit commitments for operations and maintenance to avoid asset underperformance. Support for the competitive power market must move beyond policy loans and include standard contracts, settlement and clearing systems, and transparent market data. Portfolio tagging should be consistent with the Green Taxonomy so that the climate contribution of ADB operations is visible to the public. Air-quality improvement consistent with the clean air policy should be integrated into urban and industrial operations. Finally, ADB programmes should embed inclusive just-transition frameworks that set out reskilling, local-content opportunities, grievance redress, and benefit sharing, ensuring that decarbonisation strengthens social cohesion as well as competitiveness.

5.2 Menu Card for Civil Society Interventions

Table 5 World Bank Group (WBG) Menu Card for Civil Society Interventions

Aligning Metrics with National Targets	• **Advocate for generation-linked KPIs:** Push the Bank to measure progress by *clean MWh delivered* and *curtailment reduced*, not merely MW capacity installed. This reframing ensures IGCEP and NDC milestones are credible. • **Campaign for storage and grid-forming investments:** Demand that every renewable-energy package include financing for dispatchability (storage, dynamic line rating, grid-forming inverters).
Sequencing and Social Protection in Power Sector Reform	• **Call for a sequenced CTBCM roadmap:** Urge the Bank to publish and enforce time-bound milestones (metering, settlements, payment security) before full market opening. • **Link tariff reforms to social offsets:** Lobby for BISP and SME support top-ups as mandatory companions to tariff hikes, protecting vulnerable households and small firms.
Carbon Markets and MRV Integrity	• **Push for *MRV-before-monetisation*:** Insist that the Bank fund and verify baselines, QA/QC protocols, and registry governance before advancing carbon-credit monetisation claims. • **Request transparent Article 6 readiness reports:** Ask for public disclosure of Pakistan's carbon-market preparations and safeguards against double-counting.
Energy Efficiency and Industrial Decarbonisation	• **Promote large industrial retrofits:** Pressure the Bank to move from dispersed SME audits to performance-based packages in cement, steel, fertiliser, textiles, leather, and food and beverages. • **Insist on robust M&V systems:** Campaign for independent verification of savings as a condition for disbursement, ensuring efficiency is real and scalable.
Air Quality and SLCPs	• **Secure O&M ring-fencing:** Demand that WB-financed air-quality monitoring, brick-kiln retrofits, and transport upgrades come with guaranteed O&M budgets and inspection staffing. • **Push for provincial enforcement compacts:** Encourage CSOs to press provinces to sign binding agreements on compliance enforcement with Bank support.

Just Transition	• **Embed worker-centred tools:** Advocate for disbursement triggers tied to reskilling funds, wage-insurance pilots, and local transition packages for fossil-asset communities. • **Call for gender-responsive procurement:** Push for MDB-backed supply chains to include quotas for women-owned SMEs and inclusive hiring.
State-Owned Enterprise (SOE) Reform and Risk Neutralisation	• **Demand transaction-level solutions:** Press the Bank to pair SOE reform and IPP restructuring with explicit financing solutions for circular debt and take-or-pay contracts. • **Request debt transparency:** Urge the publication of circular debt stock-and-flow dashboards to build credibility and crowd in private capital.

Table 6 Asian Development Bank (ADB) Menu Card for Civil Society Interventions

Milestones and Interim Targets	• **Press for a "ladder of milestones":** Civil society should demand interim 2025 targets for capacity additions, T&D loss reduction, curtailment thresholds, and VRE integration aligned with IGCEP and NDC. • **Ensure transparent reporting:** Advocate for quarterly publication of progress against these waypoints to improve accountability.
Energy Efficiency and Demand-Side Measures	• **Campaign for NEECA alignment:** Push ADB to align CPS targets with NEECA 2023–30, including Minimum Energy Performance Standards (MEPS) enforcement, building codes, industrial energy management systems, and demand response. • **Advocate for fewer, bigger retrofits:** Similar to the WB, pressure ADB to concentrate on large, metered industrial retrofits with concessional finance and performance-linked disbursements.
Resilience and Adaptation Mainstreaming	• **Demand climate-risk screening:** Advocate for mandatory Climate Risk Assessment (CRA) across all ADB-funded assets in energy, water, transport, and urban sectors. • **Secure lifecycle O&M financing:** Civil society should insist on hard-wired recurrent budgets and inspection staffing to prevent the *capex without O&M* trap.

Water Governance and Social Protection	• **Push for integrated water governance:** Urge ADB to invest in district-level asset management and integrated data systems to avoid fragmented water-resilience responses. • **Advocate for shock-responsive social protection:** Civil society can demand that adaptation and resilience programs include triggers for cash transfers during floods or droughts.
Market Reform and CTBCM Readiness	• **Demand operational CTBCM support:** CSOs should press for MDB support that goes beyond policy-based loans, extending to contracts, settlement systems, dispute resolution, and market data transparency. • **Tie disbursement to payment security:** Campaign for ADB to require operational payment-security mechanisms before disbursing further energy-reform loans.
Carbon Markets and Green Finance	• **Insist on Article 6 readiness:** Advocate for sectoral baselines, registry protocols, and QA/QC audits before monetisation of carbon credits. • **Promote climate-finance tagging:** Urge ADB to integrate Pakistan's Green Taxonomy into its CPS reporting, tagging every project for mitigation/adaptation finance.
Air Quality and Public Health Co-Benefits	• **Call for integrated abatement planning:** Press ADB to weave National Clean Air Policy (NCAP) priorities into transport, municipal, and industrial projects (kilns, freight, three-wheelers, open burning). • **Track public health impacts:** Civil society should demand indicators linking emission cuts to $PM_{2.5}$ reductions and health outcomes.
Just Transition and Inclusivity	• **Push for a JT framework:** Advocate for explicit labour and SME transition strategies, including skills mapping, reskilling funds, and social protection triggers. • **Insist on gender-linked investments:** Call for procurement rules that set aside contracts for women-owned firms and ensure equitable participation in green supply chains.

6. ANNEXURES

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Table 7 Detailed project statistics

Sub-test	Indicator	PGDP	Score
Quantified GHG target	A clear, numeric tCO_2e target in results	PDO indicator on cumulative CO_2e avoided 339,000 tons; tracked through program period	1.0
Sector matches NDC priority list	Activities fall in NDC sectors (EE, transport, industry, RE)	Public-sector EE/rooftop solar, SME resource efficiency (RECP), vehicle emissions control / e-bus pilot	1.0
Finance tied to mitigation KPI	Disbursement/results linked to mitigation outcomes (not just outputs)	Mitigation is tracked, but DLIs overwhelmingly output/activity-based (e.g., installations, inspections), not tCO_2e-triggered	0.5
Baseline and MRV protocol	Public baseline(s), methods, and QA/QC for GHG reporting	Indicator exists, but no disclosed MRV protocol/baseline table for tCO_2e	0.0

Sub-test	Indicator	PGDP	Score
Priority sector relevance	Touches NAP pillars (agri-water, DRR, infra resilience)	Builds air/water monitoring and env. governance capacity (indirect resilience co-benefits)	1.0
Climate-risk assessment (CRA)	CRA/CCRA used to shape investments	No standalone CRA or climate-screening protocol disclosed	0.0
Budgeted adaptation measures	Explicit, funded adaptation actions (flood-proofing, resilient design, EWS)	No dedicated adaptation components/KPIs (benefits are indirect)	0.0
Adaptation KPI	Tracked adaptation outcomes (e.g., resilience, service uptime)	No adaptation outcome indicator in results	0.0

Sub-test	Indicator	PGDP	Score
Technology in IGCEP pathway	Solar/wind/storage present	On-site solar for public facilities (demand-side)	1.0
Adds VRE/dispatchable generation	Actual clean MWh and curtailment addressed	Small-scale on-site energy; no dispatchability measures	0.5
Grid upgrades for VRE	Storage, grid-forming, congestion relief, curtailment KPIs	None—no grid-scale integration or storage	0.0

IGCEP timeline/nodes	Phasing aligned with IGCEP milestones	Not referenced (peripheral to IGCEP planning)	0.0

Sub-test	Indicator	PGDP	Score
Targets NEECA sectors	Public buildings, industry, utilities	Public-sector EE/rooftop, industrial RECP (SMEs)	1.0
Quantified energy KPI	GWh/MWh savings or generation tracked	72 GWh (savings + rooftop solar)	1.0
Independent verification / M&V	A credible third-party verifies results	Planning and Development Board verification role	1.0
Policy lever (codes/MEPS)	Codes, MEPS, audits → investments	Some policy actions noted; limited depth on codes/MEPS enforcement	0.5

Sub-test	Indicator	PGDP	Score
Right instrument disclosed	ESSA appropriate for PforR, disclosed	ESSA used; appropriate for systems-strengthening	1.0
Risk class and rationale	Risk rating and justification clear	Substantial, with capacity and cumulative impacts flagged	1.0
Mitigation measures scheduled	Program Action Plan (PAP) with actions/timelines/budgets	PAP defines corrective actions and milestones	1.0
Third-party verification	Independent verification of results/safeguards	P&DB acts as independent verifier	1.0

Sub-test	Indicator	PGDP	Score
GRM exists	Project-specific GRM beyond generic contact	GRM referenced, but not evidenced as a closed-loop system	0.5
Multiple intake channels	Phone, web, in-person, email, hotline	Unclear/undisclosed	0.0
Time-bound steps	Acknowledgement/response/resolution SLAs	Not published	0.0
Public reporting	Regular, anonymised case statistics and outcomes	No public dashboard of cases/outcomes	0.0

Sub-test	Indicator	PGDP	Score

Community livelihoods	Targeted support for affected communities/SMEs	Green micro-enterprise/SME support (generic, not transition-targeted)	0.5
Jobs and skills	Reskilling/upskilling for affected workers	None	0.0
Inclusion/gender	Gender-responsive procurement, targeting, safeguards	No explicit JT-linked inclusion measures	0.0
Worker voice and grievance	Worker-specific channel/safeguards	None	0.0

Sub-test	Indicator	PGDP	Score
Private-capital leverage	Instruments that mobilise private finance	EEF/green finance, PPP e-buses, RECP	1.0
ES performance linked to money	Disbursement tied to E&S milestones	Not explicit; disb. mostly tied to outputs	0.5
Externalities priced	Carbon/social costs in CBA	Not evidenced in public docs	0.0
ES-risk sharing	Guarantees/insurance for ES risks	No explicit mechanisms	0.0

Sub-test	Indicator	PGDP	Score
Baselines	Sector/project baselines published	Yes	1.0
QA/QC protocols	Documented methods, verification, audit	Not published	0.0
Registry governance	Roles, access, adjustments, avoidance of double-count	Not published	0.0
Monetisation readiness	Article 6 pipeline or equivalent	Conceptual intent only (no issuance plan)	0.5

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