Terms of Reference for hiring of consulting firm for Carbon Credit Monetization - Programme Development in the Transport Sector and Recycling and Reuse of end-of-life vehicles/scrap waste sector under Punjab Clean Air Programme in Punjab Province, Pakistan

Background

Pakistan is entering a critical juncture in its climate and development trajectory. As a signatory to the Paris Agreement, the country has committed to substantial emission reductions across its major emitting sectors, industry, energy, transport, agriculture, and waste. These commitments are articulated in Pakistan's updated Nationally Determined Contributions (NDCs) and supported by the National Climate Change Policy, both of which emphasize the urgent need for innovative, market-based mechanisms to drive emission reductions, mobilize climate finance, and enhance private sector participation in the transition to a low-carbon economy.

Within this national context, the Government of the Punjab has demonstrated a strong commitment to addressing air pollution and greenhouse gas (GHG) emissions, particularly in high-exposure urban areas such as Lahore. The Punjab Clean Air Program (PCAP) has been established as a flagship, government-led initiative to strengthen air quality management systems and reduce population-weighted $PM_{2.5}$ exposure, with an initial geographic focus on Lahore Division and a broader ambition to scale across the province.

PCAP is supported by the World Bank through a hybrid financing structure that combines a Program-for-Results (PforR) instrument with an Investment Project Financing (IPF) component. The program is aligned with the World Bank Group Country Partnership Framework (CPF) FY26–35 for Pakistan, which targets a 35 percent reduction in $PM_{2.5}$ exposure by 2035. The total financing envelope for PCAP amounts to US$599 million, comprising US$300 million from the International Development Association (IDA)—including a US$20 million IPF component—US$210 million in counterpart funding from the Government of Punjab, and US$89 million in commercial financing. The PforR component disburses funds against verified results, while the IPF component supports technical assistance, institutional capacity building, and analytical work.

A key and integrated element of PCAP is the mobilization of carbon finance. The program recognizes that additional financial resources can be generated through the certification and sale of emission reductions in domestic and international carbon markets. This revenue stream is critical for ensuring the long-term financial sustainability of interventions, including ongoing monitoring, reporting, and maintenance. To access carbon markets, program activities must be registered under recognized carbon crediting standards such as Article 6 mechanisms under the Paris Agreement, as well as independent standards e.g., Gold Standard (GS), Verified Carbon Standard (VERRA-VCS), Cercarbono, and the Global Carbon Council (GCC). Each of these standards has distinct requirements, methodologies, and cost structures related to project registration, validation, verification, and issuance of carbon credits.

The Punjab Clean Air Program directly contributes to Pakistan's enhanced NDC 3.0 target of reducing projected emissions by up to 50 percent—17 percent through domestic resources and an additional 33 percent conditional on international support. PCAP aims to deliver measurable environmental outcomes, including an estimated reduction of 201 kilotons of $PM_{2.5}$ emissions (177 kt from agriculture and 24 kt from transport) and 35.6 million metric tons of CO_2 equivalent (tCO_2e) cumulatively through 2037.

The Program Development Objectives (PDOs) of PCAP are structured around three key results areas: (i) strengthening air quality management (AQM) governance and public awareness; (ii) implementing emissions abatement measures in the transport sector; and (iii) implementing emissions abatement measures in the agriculture sector. These objectives are operationalized through a results-based financing framework consisting of Disbursement-Linked Indicators (DLIs 1–9) and 47 Disbursement-Linked Results (DLRs), which include a strong focus on the generation, verification, and monetization of carbon credits.

To operationalize its carbon finance strategy, PCAP is advancing several priority initiatives:

- **Electric Bus Program:** Deployment of approximately 600 electric buses across Bus Rapid Transit (BRT) corridors and mixed-traffic routes to enable modal shifts from private vehicles and reduce reliance on internal combustion engines.
- **Electric two-three-Wheeler Program:** Large-scale electrification of smaller vehicle segments, which are significant contributors to urban air pollution, supported by clean energy charging solutions such as solar-based infrastructure.
- **Establish facilities for reusing and recycling end-of-life vehicles.** The reuse of waste can will contribute to reducing pollution and it substitutes virgin material. A consulting firm will be engaged to prepare standardized documentation for a programmatic (grouped) carbon crediting approach for several programmes covering Punjab Province, along with initial project instances covering key PCAP interventions.

The overall process will encompass carbon credit project development, support in stakeholder consultations, validation by accredited third-party validation and verification bodies (VVBs), project registration under the selected carbon credit standards, obtaining the necessary regulatory approvals in Pakistan, and ongoing monitoring, preparation of monitoring reports, and third-party verification. The scope will also include technical and procedural support through to the successful issuance of carbon credits by the relevant standard. The contract duration shall be **36 months, with a provision for extension up to 48 months**, subject to project requirements and applicable approvals.

The hiring of the firm will be supported under the PCAP and it is expected that the consultancy contract will be effective December 2026.

The potential three carbon credit programmes are at a different stage of development and shortly described below.

1. "Electric two-three Wheelers Mobility Programme, Punjab Province, Pakistan"

The Project Idea Note (PIN) for this programme has been prepared and the Environment Protection and Climate Change Department (EPCCD) has endorsed the programme and it has been submitted to the Ministry of Climate Change and Environmental Coordination (MOCC&EC), for the letter of Intent. In the PIN it has been proposed to use the VERRA Verified Carbon Standard (VCS). This programme supports the transition from internal combustion engine (ICE) two- and three-wheelers to electric alternatives across Punjab, directly contributing to transport sector emission reductions under the Punjab Clean Air Program (PCAP). Given that two- and three-wheelers represent a dominant share of the vehicle fleet and a significant source of $PM_{2.5}$ emissions, the programme focuses on accelerating adoption through financing mechanisms, enabling policies, and integration with broader electric mobility initiatives.

The programme is aligned with PCAP's target to support the transition to electric two- and three-wheelers, including the deployment of approximately 120,000 electric 2- and 3-wheelers, contributing to the achievement of DLI 6. It also complements broader efforts to expand vehicle inspection regimes (DLI 7) and reduce emissions from the existing fleet through potential buyback and scrappage mechanisms (DLI 8). By enabling large-scale electrification of high-frequency vehicle segments, the programme contributes to measurable reductions in transport-related emissions and supports the achievement of PCAP results indicators.

On the 28th of September a successful stakeholder consultation was performed. Both the stakeholder consultation report and VERRA Stakeholder consultation template will be shared with awarded consulting firm.

2. "Electric E-buses Mobility Programme, Punjab Province, Pakistan"

The Project Idea Note (PIN) for this programme has been prepared and the EPCCD has endorsed the programme and it has been been submitted to the MOCC&EC for the letter of Intent. In the PIN it has been proposed to use the VERRA Verified Carbon Standard.

This programme focuses on scaling up electric bus deployment and strengthening clean public transport systems in Punjab, particularly in Lahore Division. It contributes to both modal shift from private vehicles to public transport and the adoption of low-emission technologies, thereby significantly reducing $PM_{2.5}$ and greenhouse gas emissions.

The programme is directly aligned with PCAP's target to expand cleaner public transport through the deployment of electric buses, including approximately 600 electric buses planned under the programme and linked to a disbursement target of 140 buses (DLI 5). These investments are complemented by charging infrastructure, depots, and improved operational systems. The programme contributes to increased access to sustainable transport and supports emission reduction targets under PCAP by combining fleet expansion with institutional and service delivery improvements.

A stakeholder consultation performed will be performed in Lahore in December. Both the stakeholder consultation report and VERRA Stakeholder consultation template will be shared with awarded consulting firm.

3. End-of-Life Vehicle Retirement and Circular Materials Recovery Programme

This programme aims to reduce emissions from high-polluting vehicles by establishing a structured system for retirement, scrappage, and recycling of end-of-life vehicles (ELVs) in Punjab Province. It addresses a key gap identified in PCAP, where outdated and inefficient vehicles continue to contribute disproportionately to air pollution. All potential Carbon Credits Standards shall be explored and at least the Standard Cercarbono has a methodology for "End of life Vehicles". The programme is aligned with PCAP interventions focused on the buyback and retirement of polluting vehicles, including an initial target under DLI 8, alongside the expansion of vehicle inspection systems to improve compliance (DLI 7). The programme is expected to scale progressively in line with policy and institutional development. By promoting environmentally sound recycling and facilitating the transition to cleaner vehicles, it supports emission reductions across the transport sector and complements electric mobility initiatives.

Overall Objective and the immediate objective

Under the PCAP, the firm will design and operationalize a carbon-credit monetization framework to support emission abatement in transport and waste,

This will include the clarification and development of three carbon credit programmes:

1. "Electric two-three Wheelers Mobility Programme, Punjab Province, Pakistan",
2. "Electric E-buses Mobility Programme, Punjab Province, Pakistan",
3. "End-of-Life Vehicle Retirement and Circular Materials Recovery Programme, Punjab Province, Pakistan",

It will provide end-to-end support to the Government of Punjab for carbon credit project development for the group programmes covering all documents required by the selected Standard, validation, project registration, support to initiate monitoring and verification, while establishing robust MRV systems aligned with DLIs 1–9, 47 DLRs, and the three Program Development Objectives as outlined in the PAD. The program will also build the technical and operational capacity of PCAP staff and implementing agencies—including the Environmental Protection Department, Transport Department across all stages of the process.

In case the consulting firm is selected to contribute to the buying and selling of carbon credits, specific TOR will be prepared for this and an additional budget allocated and agreed.

Immediate Objective

The objective of this specific assignment is to contribute to the registration and the issuance of carbon credits of the three programmes at specific carbon credit standards and be developed in line with the Pakistan authority requirement and the selected standards.

Deliverables and indicative timeline

Selected main deliverables are mentioned to manage the overall expectation for the progress of each programme. The consultant will prepare a more detailed plan to ensure all documents required by the standard will be included in the assignment.

1. "Electric two-three Wheelers Mobility Programme, Punjab Province, Pakistan" (programme 1)	
Deliveries and tasks	**Month after signing the consultancy contract**
Submission of inception report including review of PIN, methodology, the stakeholder consultation report, report covering the stakeholder engagement template, on-going monitoring, uploaded information on the VERRA homepage as project under development and detailed implementation plan	2 months
Evaluate on-going monitoring and prepare a guide to the electric two three-wheeler program based on the on-going monitoring to have the proper set-up for the monitoring and support the initial activities related to the monitoring and in line with the group programmes expected and/or proposed monitoring plan and VERRA monitoring template.	3 months
Draft Carbon Credit Project Documents for the group programme[1] with focus on the main VCS Project Description template (VCS Project Description Template V5.0B) and other documents to support clarification with validators and propose the process for selection of Validator (Validation/Verification Body (VVB)) by the consultant.	5 months
Contract with Validator	7 months
Carbon Credit Project Documents with focus on the main VCS Project Description template, (VCS Project Description Template V5.0B), kml file with project boundary and other relevant documents have been submitted to validator.	8 months
First round of comments from the validator have been received	10 months
Carbon Credit Project Documents including main VCS Project Description template, (VCS Project Description Template V5.0B), and kml file with project boundary have submitted for global stakeholder consultation	11 months
Prepare and process the site visit by validator	11 months
Final validation report from validator has been submitted to Standard for final review	13 months
Carbon credit Project Documents including the VCS Project Description Template V5.0B, template stakeholder engagement plan and kml file with project boundary have been accepted and registered by the VERRA Standard	14 months

[1] Grouped Projects - Verra

Submit and process the approved of Carbon Credit Project Documents including the VCS Project Description Template V5.0B, kml file with project boundary, stakeholder consultation reports and other documents required by MOCC&EC	16 months
Preparation of upto 3 monitoring reports and based on data from the first operational electric wheelers.	In the period 18 months to 36 months (48 months)
Contracting of verifier for upto 3 verification reports.	Indicative 18 months
Submission of monitoring reports to verifier and process all dialogue with verifier and standard until the carbon credits have been issued for upto three verification rounds.	In the period 18 months to 36 months (48 months)

"Electric E-buses Mobility Programme, Punjab Province, Pakistan" (programme 2),	
Deliveries and tasks	**Month after signing the consultancy contract**
Submission of inception report including review of PIN, methodology, the stakeholder consultation report, report covering the stakeholder engagement template, uploaded information on the VERRA homepage as project under development and detailed implementation plan	2 months
Support in the Stakeholder Consultation in Lahore and engage with relevant stakeholders related to electric buses programme under pcap	2 months
Prepare a guide to the electric buses program to have a proper set-up for the monitoring and support the initial activities related to the monitoring and in line with the group programmes proposed monitoring plan and VERRA monitoring template.	3 months
Draft Carbon Credit Project Documents for the group programme[2] with focus on the main VCS Project Description template (VCS Project Description Template V5.0B) and other documents to support clarification with validators and propose the process for selection of Validator (Validation/Verification Body (VVB)) by the consultant.	5 months
Contract with Validator(s)	7 months
Carbon Credit Project Documents with focus on the main VCS Project Description template, (VCS Project Description Template V5.0B), have been submitted to validator.	8 months
First round of comments from the validator have been received	10 months
Carbon Credit Project Documents including main VCS Project Description template, (VCS Project Description Template V5.0B), and kml file with project boundary have submitted for global stakeholder consultation	11 months
Prepare and process the site visit by validator	11 months
Final validation report from validator has been submitted to Standard for final review	13 months
Carbon credit Project Documents including the VCS Project Description Template V5.0B, template stakeholder engagement plan and kml file with project boundary have been accepted and registered by the VERRA Standard	14 months

[2] Grouped Projects - Verra

Submit and process the approved Carbon Credit Project Documents including the VCS Project Description Template V5.0B, kml file with project boundary, stakeholder consultation reports and other documents required by MOCC&EC	16 months
Preparation of upto 3 monitoring reports and based on data from the first operational electric buses.	In the period 18 months to 36 months (48 months)
Contracting of verifier for upto 3 verification reports.	Indicative 18 months
Submission of monitoring reports to verifier and process all dialogue with verifier and standard until the carbon credits have been issued for upto three verification rounds.	In the period 18 months to 36 months (48 months)

"Recovery and recycling of material from End-of-life vehicles, Punjab Province, Pakistan" (programme 3)	
Deliveries and tasks	**Month after signing the consultancy contract**
Submission of inception report by consultant and international mission. The inception report shall cover a review of different standards, compare the different standards related to prior consideration, additionality, support in preparation of pin document and stakeholder consultation requirement, baseline setting, monitoring, risks, initial communication with facilities handling collection and reuse of waste, the cost to standard and validator and clear recommendation of a way forward, including methodology and a detailed plan, if any.	2 months
Support in the Preparation PIN for submission to EPCCD and MOCC&EC.	3 months
Support in the Stakeholder Consultation in Lahore and engage with e.g. facilities covering reuse and recycling of waste from end-of-life vehicles.	6 months
Draft Carbon Credit Project Documents for the group programme required by the selected standard, and other documents to support clarification with validators and propose the process for selection of Validator (Validation/Verification Body (VVB)) by the consultant.	10 months
Project has been listed at the selected Standard e.g., as project under development	11 months
Contract with Validator	13 months
Carbon Credit Project Documents for the group programme have been submitted to validator	14 months
Prepare guide the programmes to have a proper set-up for the monitoring and support the initial activities related to the monitoring and in line with the group programmes proposed monitoring plan and monitoring templates by the standard	15 months
First round of comments from the validator have been received	16 months
Carbon Credit Project Documents submitted for global stakeholder consultation	17 months
Site visit by validator for programme 3	18 months
Final validation report from validator has been submitted to Standard for final review	20 months
Carbon Credit Project Documents have been accepted and registered by the Standard	21 months
Submit and process the approval of Carbon Credit Project Documents by Federal level based on the submitted documents	22 months
Initiate the monitoring and prepare guidance dcouments. Preparation of upto 3 monitoring reports	In the period 18 months to 36 months (48 months)
Contracting of verifier for upto 3 verification reports.	Indicative 18 months

Submission of monitoring reports to verifier and process all dialogue with verifier and standard until the carbon credits have been issued for upto three verification rounds.	In the period 18 months to 36 months (48 months)

Requirements and coordination

#	Position / Role	Minimum Qualifications	Relevant Experience	Key Responsibilities
1	Team Leader	Master's degree in Environmental Science, Engineering, Public Policy, Economics, Finance, Business, or related field	Preferably 15 years of experience in carbon markets; significant experience in carbon credit project development across the two sectors (transport and waste)	Provide overall leadership and strategic direction; oversee development and monitoring of carbon credit programmes; lead engagement with stakeholders, carbon standards, and validators
2	Transport Carbon Credit Expert	Master's degree in Transport Engineering, Mechanical Engineering, Energy Systems, or related field	Preferably 10 years of experience in carbon credit project development; documented involvement in transport carbon credit projects/programmes that have reached registration under a recognized standard	Lead development and monitoring of transport-related carbon programmes; support emissions modelling, methodology application, and validation processes
3	Waste Carbon Credit Expert	Master's degree in Environmental Engineering, Waste Management, or related field	Preferably 10 years of experience in waste-related carbon projects; experience in reuse and recycling preferred; documented involvement in registered waste carbon credit programmes	Lead development and monitoring of waste and recycling carbon programmes; quantify emission reductions and support methodology selection
4	PDD / PoA / CPA Expert	Master's degree in Environmental Science, Climate Finance, or related field	Preferably 10 years of experience in preparation of PDDs, PoAs, CPAs, or group programmes under recognized carbon standards including experience with preparation of monitoring reports	Lead preparation of carbon documentation; ensure compliance with carbon standards; support validation, registration, monitoring and verification
5	Carbon Market & monitoring expert	Master's degree in Environmental Studies, Public Policy, Economics, or related field	Preferably In-depth understanding of Pakistan's carbon market framework, approval processes, and regulatory requirements; experience in monitoring of projects	Lead coordination with national authorities; support approval processes, regulatory compliance and monitoring reports
6	Carbon credit Project Development Expert	Bachelor's or Master's degree	Preferably Experience in developing the carbon credit	Support technical development of carbon

		in Environmental Science, Engineering, or related field	component in at least 5 projects; strong technical expertise in Carbon credit project development, e.g., PDD preparation, emissions calculations, and MRV systems	programmes; assist in emissions calculations, baseline setting, monitoring and documentation
7	PCAP Carbon credit project coordinator (Punjab-based)	Bachelor's or Master's degree in Social Sciences, Management, Communications, or related field	Based in Punjab Province; strong communication, coordination, and facilitation skills	Lead day-to-day coordination with PCAP-CMU and Punjab authorities; support stakeholder engagement, consultations, and field coordination Act as the primary liaison between the firm and all relevant departments, ensuring effective coordination and timely achievement of all project milestones. Support the development, review, and refinement of all documents submitted to the standards, ensuring alignment with relevant departmental requirements and international carbon standards, and readiness for validation.

Payment terms

No.	Deliverables / Payment Milestones	Electric 2/3-Wheelers	Electric Buses	ELV Recycling
1	Submission and approval of inception report, including methodology review and detailed implementation plan	5%	5%	5%
2	Support in PIN preparation, stakeholder consultation and stakeholder consultation report	—	—	5%
3	Preparation of monitoring guidelines, including MRV framework and monitoring arrangements	5%	5%	5%
4	Preparation and approval of draft Carbon Credit Project Documents, including proposed validation arrangements	10%	10%	10%
5	Contracting of accredited validator (VVB)	10%	10%	10%

6	Submission of complete Carbon Credit Project Documents to the validator	10%	10%	10%
7	Final Validation Report submitted by validator to the selected Standard for review	15%	15%	15%
8	Carbon Credit Project Documents accepted and programme registered by the selected Standard	20%	20%	20%
9	First round: Monitoring Report approved, verification completed and first issuance of carbon credits confirmed by the Standard	10%	10%	10%
10	Second round: Monitoring Report approved, verification completed and second issuance of carbon credits confirmed by the Standard	10%	10%	5%
11	Third round: Monitoring Report approved, verification completed and third issuance of carbon credits confirmed by the Standard	5%	5%	5%
	TOTAL	100%	100%	100%

All payments shall be based on submission of the required documents at each payment and approval PCAP-CMU. The consulting firm shall submit a comprehensive financial proposal covering all three programmes, including a detailed cost breakdown for each individual programme. The percentage of payments shall be linked to the value and scope of each programme. Each programme will be managed independently; therefore, any suspension, delay, or cancellation of one programme shall not affect the implementation progress or payment terms of the remaining programmes.

The engagement of the validator(s) shall be carried out either through a competitive tendering process or through direct negotiations, as appropriate. Multiple validators may be engaged depending on the type of programme and the applicable carbon standard.

The consulting firm will be responsible for paying the required costs associated with fees charged by the applicable Standards for the three programmes, including project listing fees, registration review fees, and other relevant charges related to the standard accounts.

The consulting firm shall be responsible for managing payments to the Validation/Verification Bodies (VVBs) in accordance with agreed contractual milestones and making the required payments to the applicable Standards to ensure smooth processing. These payments will be reimbursed to the consultant upon submission of valid invoices and supporting documentation.

The consultant will guide and assist with the timely processing of documents and costs related to the applicable Standards. The consultant will undertake the actual submission of the technical documents to the Standards in coordination with PCAP-CMU.

Institutional Arrangements

The consulting firm will be engaged by PCAP-CMU and shall carry out the assignment under its overall guidance and supervision. The firm will coordinate closely with the Environment Protection and Climate Change Department (EPCCD), the Transport Department, and the relevant Waste Management authorities on matters relevant to each carbon credit programme, The firm will also liaise directly with the selected carbon credit Standards and Validation/Verification Bodies (VVBs) on technical and procedural matters, and will retain responsibility for the official submission of technical documents to the Standards. The consulting firm shall submit all reports, deliverables, and correspondence directly to PCAP-CMU for review and approval.

Reporting and Communication

The consulting firm will produce all reports in English, in a clear and professional format. Reports must include supporting evidence such as photographs, GPS-tagged site visit data, stakeholder consultation records, and survey results, as applicable to each deliverable. Fortnightly/weekly progress review meetings will be held with PCAP-CMU. Upon completion of each deliverable under a given carbon credit programme (e.g., inception report, Carbon Credit Project Documents, validation report), the consulting firm will submit the report, in both hard and soft copy, to the Program Director, PCAP-CMU, for review and approval before proceeding with submission to the selected carbon credit Standard and/or the relevant government approval process (EPCCD/MoCC&EC). The consulting firm will remain engaged and continue to support PCAP-CMU, the Standard, and the Validator until final registration of each programme and receipt of all required government approvals.

Duration of the assignment

The contract duration shall be **36 months, with a provision for no cost extension up to 48 months**, subject to project requirements and applicable approvals.

Type of contract

The contract will be on a lumpsum basis.

Selection Method

The firm will be selected in accordance with the quality and cost-based selection (QCBS) as per World Bank regulation.