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Toll Roads Module

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Module 3 of the Annex in Asset Recycling.

This module sets out sector-specific asset recycling guidelines for toll roads sector, including sector-specific due diligence requirements, sample risk allocation matrix and sample terms of reference (TOR) for selection of transaction advisors. *Find more below, or visit the Guidelines for Implementing Asset Recycling Transactions section and Content Outline, or Download the Full Report.*

The Relevant Authority should undertake a due diligence study of the toll roads asset that is considered for asset recycling. This should form part of the asset recycling transaction preparation process. The due diligence process for a toll roads asset should include:

- Traffic Forecast and Demand Assessment
- Road Infrastructure and Capacity Development
- Financial Performance
- E&S and Climate Resilience Due Diligence

Due Diligence for Toll Roads

In conducting due diligence, the objectives are as follows:

- Review the condition of the toll road;
- Review operations of the asset; including the tolling technology used, toll processing systems, safety and patrol services, repairs and maintenance, landscaping and operations of rest stops;
- Review service standards provided under the current operations of the asset including standards pertaining to safety and maintenance, incident response, repairs, signages and street lighting;
- Review the financial status of the asset and the financial feasibility of the asset under private sector party operations;
- Determine measures that can be implemented to enhance the asset's value either through an extension or expansion of the toll road, the introduction of any operational efficiency or tariff adjustments; and
- Identification of key Environmental and Social (E&S) and Climate risks to be taken into account in the asset's selection and the risk allocation process.

In the context of a toll road asset recycling transaction, the following additional due diligence should be undertaken:

- Traffic and revenue forecast of the asset;
- Assessment of other ancillary revenues that could potentially be derived from the system;
- Assessment of existing built infrastructure and future capacity development for the asset;
- Assessment of E&S risks and Climate risks;
- Assessment of all operation and maintenance performance; and
- Assessment of financial performance of the Asset including consideration of the asset as interesting to lenders as well as equity.

Traffic Forecast and Demand Assessment

The relevant authority should consider the following aspects when conducting the traffic forecast for the Asset and an assessment of demand of the asset:

- Perform a traffic study, including traffic counts and origin-destination survey using the most appropriate and cost-efficient method (manual counts, automatic traffic counting stations, drones, satellite imagery, etc.);
- Perform a traffic demand assessment to provide a robust forecast over the stipulated concession period;
- Prepare traffic forecasts based on the traffic study and (Origin-Destination) O-D data. Realistic annual traffic growth rates for the base year and over the stipulated concession period; considering factors such as the impact of the national economic growth and future regional development/s, including any relevant ongoing, committed or otherwise planned/expected road projects.

Road Infrastructure and Capacity Development

Undertake a preliminary assessment of the existing road alignment, propose any re-alignment (where possible and permitted) to improve the geometric characteristics and road safety. Several options should be proposed and considered, including various technical solutions, and amending the number of total travel lanes and their widths.

A gap analysis report, including an assessment of the asset's condition, to determine the adequacy to provide required service levels should be prepared. The gap analysis should cover:

- Assessment of the remaining useful life of the asset;
- Potential replacement / overhaul / major maintenance required and the timing thereof;
- Major lifecycle costs over the term of the term of the operations of the asset by the private sector;
- Overall performance against benchmark with reference to the current capacity;
- Service specifications required to meet future needs; and
- Any shortfall with respect to the maintenance obligations and the remediation measures and any remediation costs required.

Financial Performance

Due diligence should be undertaken of the toll road's financial performance. To this end, the due diligence process should review toll revenues, and operating expenses, presenting historical and projected Earnings Before Interest, Tax and Depreciation/Amortisation (EBITDA). Using reasonable leverage levels, forecast lenders metrics such as Debt Service Coverage Ratio (DSCR) and Loan Life Coverage Ratio (LLCR) as well as key equity metrics such as project rate of return.

Toll Revenues

- Current structure of the relevant toll charges and the applicable fee adjustment mechanism/s:
    - Base charges detailing the prevailing charges and historical revenue there from;
    - Base charges growth rate detailing prevailing escalation or indexation regime and an assessment as to whether adjustments have been adequate to cover historical inflation;
- Forecast of toll revenues based on traffic forecast and prevailing toll charging mechanisms.

Operating Expenses

- Review operations and maintenance expenses comprising staff and non-staff costs;
- Review total operating cost and benchmark it against the median average of comparable (i.e., regional, or local road assets).

Capital Expenditure

- Assess projected capital investment in extensions or expansions and asset renewal and detail any required expenditure plans (for improvement of service levels, technological upgrade or increasing capacity) to meet expected growth in traffic demand over the term of the concession agreement;
- Assess estimates for the cost of proposed road upgrade (as applicable) including all required services, such as pre-design investigations, design, road safety audit, supervision, etc.

E&S and Climate Resilience Due Diligence

This is a high-level summary to be expanded and tailored to the project risks by the E&S and Climate Resilience Advisory engaged to undertake the E&S and Climate Resilience Due Diligence (DD).

During the E&S Due Diligence to identify:

- gaps between national applicable law and GIIP/Lenders requirements and way to bridge them with related timeline for implementation;
- key E&S risks may include, but not limited to: land acquisition and/or clearing, resettlement, impact on livelihood, removal of trees and vegetation, disturbance during construction activities with utilities interruption, traffic diversion and safety, presence of sensitive receptors in the project area of influence with potential limitation in access to residential and commercial activities and increase in noise levels, air emissions, pollution, dust, wastewater and storm water management, waste management, and hazardous material/waste handling, presence and close proximity of the alignment with key biodiversity areas, legacy issue (if any);
- applicable E&S permitting and E&S studies to be developed and to be considered in the risks allocation between the government contracting party and the private sector.

The Climate Resilience Due Diligence should include at least an:

- assessment of GHG emissions baseline of the toll road asset;
- historical climate data and natural disaster events affecting the toll road asset;
- review of climate and natural disasters risks of the toll road asset (e.g., flood risks to roads, increased scour of bridges, increased instability of embankments, increased damage to road surfaces; increased drought and wildfires);
- assessment of the Disaster Risk Management plan or Emergency Preparedness and Response plan (if any in place); and
- assessment of integration of climate resilience concepts in maintenances regimes and road surface specifications.

TOR for Transaction Advisors for Toll Roads Development

*This document has been prepared as part of the annex of the section on **Guidelines in Implementing Asset Recycling** in the **PPP Resource Center (PPPRC)** for contracts, laws and regulations. It is for general guidance purposes only and should not be used as a substitute for specific legal advice for a project.*

Introduction

Project Background

The **[Relevant Authority's]** Board of Directors is engaging the integrated consultant services (either as a single firm or consortium, referred to as 'the consultant') for the transaction advisory services for the **[operations, maintenance and management]** of the **[xxx]** power plant for the next **[xxx]** years under an Asset Recycling Scheme ("the Project").

Objective and Purpose of the Project

The Consultant will directly support the **[Relevant Authority]** with the provision of advisory and transaction services for this Project. The key project objective is to carry out the technical and financial feasibility studies, develop technical specifications and standards, draft legal contractual framework and assist in the administration of asset recycling partner selection from inception to the financial close.

During the tender support process, the consultant will assist the **[Relevant Authority]** in implementing a competitive tender, consistent with the best international practices and local laws.

Legal Basis

The legal basis for the framework of the preparation and selection of a partner for **[XXX**] power plant (XXX MW) under the Asset Recycling Scheme refers to [.] Laws and Regulations including but not limited to:

1. **[XXX]**
2. **[XXX]**

Scope of Work

Introduction

The Consultant scope of work involves multi-disciplinary capabilities and expertise involving planning, toll roads traffic forecasting, toll roads business valuation, toll roads funding and financing and transaction advisory. In addition, the experience of drawing legal and regulatory framework, with emphasis in concession structuring of transport infrastructure is also needed for this project. The study's scope of services forms a part of the following deliverables/tasks:

a. Feasibility Study (technical and financial) for transaction structuring;
b. Tender Process for Partner Selection;
c. Post-transaction award assistance (up to financial close);

Consultant Governance Structure

It is expected that consultant team will be comprised of a Financial, Technical and Legal advisory team. The Financial Consultant will be the lead consultant and work closely with others as an integrated team under **[Relevant Authority's]** guidance, particularly during the feasibility and tender process.

Scope of Works

The below Scope of Services reflects the minimum requirements which **[Relevant Authority]** envisages will be necessary to conduct the consultancy advisory services.

- Stakeholders Management Discussion
- Toll Road Traffic Demand Forecast
- Technical Analysis and Capex Estimation
- Legal and Regulatory Assessment
- E&S and Climate Resilience Assessment
- Preparation of financial model, business and financial analysis
- Project structuring and transaction advisory
- Transaction process management

Project Duration and Reporting

It is expected that the consultant will be appointed and commence its services no later than **[xxx]**. The entire project scope is expected to be completed within **[xxx weeks]** with the following indicative timeline allotted to the following:

- Final Feasibility Study- **[XXX weeks]**;
- Report on final project structure - **[XXX weeks]**;
- Tender Selection Process for Partner Selection (including negotiations & contract signing) - **[XXX weeks]**;
- Post-award assistance (till financial close) - **[XXX weeks]**;

Expert Requirements

Composition of Consultant's Expert Team

The project is scheduled to be delivered within **[XXX]** months, including **[XXX]** weeks for the completion of monitoring and evaluation report after the project financial close. Under the project requirements, the consultant will mobilize the following experts:

- Team Leader / Project Manager
- Deputy Team Leader / Deputy Project Manager
- Traffic Forecasting Expert
- Legal Expert
- Regulatory and Policy Expert
- Environmental and Social and Climate Resilience Expert
- Transport Planner Expert
- Transport Economist
- Transaction Advisory Expert
- Financial Modelling and Business Senior Analyst

The Consultant will determine the number, effort and the nature of experts/support staff they will require to achieve the objectives of the project, in accordance with their proposed approach and methodology. However, the **[Relevant Authority]** requires a minimum of **[XXX]** key experts for proposal evaluation purposes. For any changes in the team composition post award award shall have to be agreed with the **[Relevant Authority]**.

Project Deliverables

Project Deliverables

- A report covering technical, financial, and legal feasibility, including incorporation of feedback from the **[Relevant Authority]** (due in **XXX** weeks):
- An overview of the project implementation schedule aligned with agreed dates during kick-off meeting;
- A draft Road Traffic Demand Forecast Study;
- Technical assessment covering the review of existing toll road and related facilities and available land areas and capacity assessment and its ability to accommodate the future demand with highlighting social and environmental impacts and climate change impacts (including climate resilience strategies) and mitigation strategies;
- Financial and business feasibility analysis for the Project;
- Legal and Regulatory Framework Assessment.
- Project structuring
- Project documentation preparation, including pre-qualification, request for proposal, draft concession agreement, and tender selection process
- Post-award assistance (till financial close)

Indicative Payment Schedule

- Professional fees: The project fee shall be proposed as a lump sum contract value, inclusive of typical travel expenses, including accommodation and per-diem of the professional consultants' team, and exclusive of [.] withholding tax and other applicable taxes and inclusive of consultant's country GST and Taxes;
- Payment terms: Terms of payment are proposed are as follows:
    - Inception report submission - **XX**% of the lump sum contract;
    - Draft Feasibility report submission - **XX**% of the lump sum contract;
    - Final Feasibility report submission - **XX**% of the lump sum contract;
    - Report on final project structure -**XX**% of the lump sum contract;
    - Completion of Tender Selection Process, Negotiation, & Award Signing - **XX**% of the lump sum contract;
    - Post-award assistance (till financial close) - **XX**% of the lump sum contract;
- Schedule of consultant hourly rates

Project Evaluation Criteria

Form of Proposal

The Consultant's proposal must be submitted in [bilingual (both in English and [.]) / English], duly signed by the authorized signatory of the Lead Consultant.

The following criteria will be used as guidance in comparing and evaluating the different proposals submitted by the Consultants. The proposal should include a technical and financial proposal comprised of the following:

- Organization Experience
- Specificeexperience of team members and dedication to the project

- Comments on Terms of Reference
- Description of Approach, Methodology, and Scope of Work Plan for Performing the Project:
    - Technical Approach and Methodology
    - Work Plan
    - Organization and Experts
    - Curriculum vitae of each expert and supporting staff
- Financial Proposal as proposed lump sum fee (with a breakdown of fixed professional fee, expenses, contingencies); consultants are also requested to submit discounted hourly rates.

Instruction to Consultants

Notice of Receipt and Queries and/or Clarification

Consultants shall acknowledge receipt of this RFP immediately upon receipt. Consultants shall also advise of their intention to submit a Proposal no later than **XXXX202Y**.

Consultants may request clarifications and/or raise queries in writing, during the period of submission, with respect to any aspect of this RFP. The final date for requesting any query and/or clarification or further information is **XXX**. No queries and/or clarifications will be responded to after this date.

Should the **[Relevant Authority]** provide additional information or responses to a Consultant, it reserves the right to issue a copy of such information to all Consultants and all additional information or responses will form part of this RFP.

All correspondence including notification of receipt, confirmation of intention to submit a Proposal raising queries and/or clarifications shall be delivered directly to **[Procurement Unit of Relevant Authority]**

Submission of Proposal

Consultant proposals are to be submitted no later than **XXX202Y** (the “Submission Date”) and delivered directly to: **[Procurement Unit of Relevant Authority]**

Validity of Proposal

Proposals shall remain valid and binding upon the Consultants for a period of ninety (90) calendar days from the Submission Date ("Period of Validity"). Proposals valid for a shorter period may be rejected by **[Relevant Authority]** as failing to be deemed substantially responsive pursuant to this TOR. Proposals may be accepted at any time before the expiration of the Period of Validity.

[Relevant Authority] may, not later than fourteen (14) calendar days prior to the expiration of the Period of Validity, request the Consultant's consent to an extension of the Period of Validity. Both the request for extension and the response shall be made in writing.

Reservation of Rights

[Relevant Authority] reserves the right to, at its absolute discretion:

- Amend this TOR and/or the TOR process;
- Amend the indicative timetable as outlined in the earlier sections;
- Suspend, cancel or vary the intended selection process;
- Reject any and/or all Proposals;

- Award the engagement to whichever Consultant best satisfies the TOR requirements, such successful Consultant not necessarily being the Consultant with the lowest fees; and

Cost of Preparation of Proposals

All costs incurred by the Consultant in the preparation and lodgement of their Proposal or otherwise in the course of the evaluation of their Proposal shall be borne by the Consultant. **[Relevant Authority]** will not be responsible for and will not pay for, any expense or loss that may be incurred by the Consultant in the preparation, evaluation or negotiation of their Proposal.

Acknowledgement

Submission of a Proposal by the Consultant will constitute and evidence acknowledgement by the Consultant that it has:

- Examined this TOR (including any amendments or addenda); and
- Satisfied itself as to the correctness and sufficiency of its Proposal and that the fees submitted cover the cost of complying with all matters and things necessary for the due and proper performance of the Services and any other elements deemed necessary by the Consultant for a Project of this nature.

Form of Agreement

The successful agreement should form the basis of client-consultant model services agreement as defined in the draft **[to be drafted at the transaction stage]**.

Risk Matrix for Toll Roads

In selecting appropriate toll roads for asset recycling, the selected toll roads should have an operating track record, thereby **de-risking the private sector of upstream risks**, such as land acquisition, project planning, design risk, construction risks (time and cost-overrun risk), and development-related approvals.

Checklists of issues to consider when preparing or reviewing sector-specific asset recycling guidelines for toll roads risk sector:

- Operating Risk
- Demand / Revenue Risks
- Financial Risk
- Change in Law
- Force Majeure
- E&S Risks
- Climate Risks

Sample risk matrix – Toll Roads

Risk	Description	Public	Private	Shared	Mitigation

	Inadequate performance	**The risk of service quality provided by the concessionaire not meeting the toll road minimum service standard and any additional contracted service standards or availability.[1]**		**x**		**Ensuring the appointment of a competent concessionaire who could remediate any inadequacies in performance.** **Periodic monitoring and reporting of the compliance with the toll road minimum service standard.**
	O&M costs overrun	**Risk of O&M costs being higher than forecast or budgeted.**		**x**		**Appointment of competent concessionaire and management putting into place timely remedial steps.**
OPERATING RISKS	**Life cycle costs overrun**	**Risk of lifecycle costs being higher than forecast or budgeted.**		**x**		**Appointment of competent concessionaire and management putting into place timely remedial steps to manage increased costs; passing of increased costs to end-users within the parameters of toll setting regime.**

Utilities costs overrun	**Risks of utility costs being higher than estimated or budgeted due to inefficiencies or increased charges.**		**x**		**Appointment of competent concessionaire; proactive asset management to ensure that assets are maintained in a manner that optimises costs.**
Latent Defects and Existing Liabilities	**Risks of latent defects and existing liabilities in the road assets.**			**x**	**Conduct adequate technical due diligence; the concessionaire to bear the risk up to a certain threshold beyond which the risk will be borne by the public sector.**

DEMAND / REVENUE RISKS	**Demand and traffic risk**	**Actual traffic is lower than forecast causing a shortfall in toll revenue against budgeted revenue.**		**x**		**Ensure that traffic survey and forecast are conducted by competent advisers; defer timing of capacity-driven capital expenditure program; re-deployment of staff and re-calibration of level and intensity of operational functions.**
	Failure to collect toll charges	**Due to failure or non-optimality of collection system from users.**		**x**		**Proven toll collection system and good operational performance.**
	Toll setting risk (1)	**Risk that toll charges indexation does not match inflation or cost increases and escalations, thereby impacting margins or that the relevant authority does not approve escalation as per agreed fee and charges escalation mechanism.**			**x**	**Clear regulations or contract terms that regulate the rate and adjustments of toll charges.**
	Toll Setting Risk (2)	**Risk that that the relevant authority does not comply with the toll escalation mechanism and fails to allow for the indexation/increment to the toll charges (even where allowed).**	**x**			**This would constitute a default on the part of the relevant authority; such the occurrence of such an event would require compensation.**

FINANCIAL RISK	**Failure to achieve financial close**	**Inability to achieve financial close due to market uncertainty or the project capital structure is not optimal.**		**x**		**Good coordination with potential and credible lenders.**
	Foreign exchange rate risk	**Fluctuation of foreign exchange rate.**		**x**		**Financing in local currency to the extent possible; taking into accounts currency fluctuation hedging instruments; such as future contract and currency options.**
	Inflation and interest rate risk	**Increase of inflation rate used for estimating life-cycle costs and interest rate.**		**x**		**Fee and charges indexation factor; interest rate hedging.**
CHANGE IN LAW	**General change in law**	**Change in law such as taxation which impacts all businesses and industries.**		**x**		**General change in law risk should be borne by the concessionaire.**
	Discriminatory or project specific change in law	**Change in project/sector-specific law or regulation such as fee and charges setting.**	**x**			**Mediation, negotiation, political risk insurance.**

FORCE MAJEURE	**Natural disasters**	**The occurrence of natural disasters disrupting operations.**			**x**	**Insurance, to extent possible. In extended FM, parties will have the right to terminate.** **Climate adaptation plan.** **Emergency Preparedness and Response plan (EPR plan) / Disaster Risk Management plan (DRM plan).** **Incorporate Qualified Climate Risk Events.**
	Political force majeure	**Government action and inactions.**	**x**			**Insurance, to extent possible; termination with compensation if settlement cannot be reached.**
	Prolonged force majeure	**If above prolongs for 6 to 12 months, may cause economic problems to the affected party (esp. if insurance does not exist).**			**x**	**Either party should be able to terminate the contract and trigger an early termination.**

						The party in charge for construction and Operation and Maintenance (O&M) should have undertaken E&S Studies prepared management plans to mitigate any adverse impacts and risks and consistent with applicable laws. **Replanting trees, and mitigating the cutting of trees in the road area.** **Reducing the use of electricity by using renewable energy and introducing energy efficiency measures and reducing fuel consumption by using environmentally friendly equipment.** **Design and implementation of noise control measures (e.g., noise barriers along the border of the right-of way such as earthen mounds, walls, and vegetation).** **Solid waste management plan.** **Integrated vegetation management (IVM).** **Management practices to prevent and control impacts to terrestrial and aquatic habitats (e.g., wildlife underpasses,**
		Road development and operation create many E&S impacts and risks, which if not				

Risk of noncompliance on the E&S aspect of the concession agreement.			**x**	**The parties to review compliance of the E&S aspect of the Concession Agreement, during construction and O&M.**

					Enhance design criteria to withstand extreme heat. **Improve emergency repair procedures.** **Upgrade and reinforce drainage systems.** **Integrate climate resilience in maintenance regimes and road surface specifications.** **Using permeable paving surfaces to reduce run-off during heavy rainfalls.** **Road slope and side cliff design with high water permeability and protection.** **Install fire**
	Deterioration of road surface integrity.				

**Based on "WB (2016) - "Emerging Trends in Mainstreaming Climate Resilience in Large Scale, Multi-sector Infrastructure PPPs"*

Key variables to monitor on climate risks and its impacts, in particular for toll roads assets:

- Pavement cracks / potholes (road area affected)
- Embankment failure / Landslides (road length affected)
- Asphalt wear (roughness)
- Wildfires Events in 100 km surrounding area (# of events)
- Bridge joints expansion (in millimetres)
- Scour (road area affected)
- Maximum temperature and deviation vs. average monthly max temperature (in °C)
- Sea level rise (in meters)
- Flooding (road length affected)
- Intense precipitation events (in millimetres)
- Storm surge (# events and intensity)
- Climate related accidents (# of events)
- Paint peeling (road length affected)
- Road unavailability (days per year)
- GHG emissions (tons CO2 e.g., per year)

Related Content

- **Guidelines for Implementing Asset Recycling Transactions (Download PDF version)**

Additional Resources

- Public-Private Partnerships in Roads

This section has not been prepared with any specific transaction in mind and are meant to serve only as general guidance. It is therefore critical that the content will be reviewed and adapted for specific transactions.

This is a new section of the website and is currently in draft form. For feedback on the content of this section or to suggest additional links or materials, please contact the PPP Resource Center using the feedback form.

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