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Airport

Airport Module

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Module 1 of the Annex in Asset Recycling.

Many airports are owned and operated by government bodies, such as ministries or state-owned enterprises. Airports are highly valuable assets, which serve not only passengers but also support the movement of cargo. In addition, the potential of commercial real estate assets in and around the airports attract investment capital from strategic, institutional, and financial investors, thus making airports a likely asset class for asset monetization and recycling.

This module sets out sector-specific asset recycling guidelines for airport 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.*

Due Diligence for Airports

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

- Air traffic forecast and assessment of demand
- Assessment of current airport infrastructure and future capacity development
- Assessment of airport financial performance
- Legal due diligence
- Assessment of Environmental and Social (E&S) risks and climate risks

Air Traffic Forecast and Assessment of Demand

The Relevant Authority should consider the following aspects when conducting traffic forecast and an assessment of demand for the airport:

Historical analysis

- a macro-economic analysis of the air traffic trend, and the role the airport plays in the economic development of the surrounding region;
- historic enplaned passengers handled, air traffic movement (by category of aircraft), and cargo tonnage at the airport;
- existing non-aeronautical activities and potential of the airport;
- impact on passenger and air traffic movement due to the impact of COVID-19, including outlook for the recovery profile;
- impact of existing and foreseeable policy changes on the demand at the airport.

Forecast

- overview of key economic indicators of the catchment area of the airport, in terms of the population base and its location relative to other competing airports;
- project a baseline forecasts for growth in cargo and passenger volume and air transport movements for the period under consideration;
- impact on passenger and air traffic movement due to the impact of COVID-19, including outlook for the recovery profile;
- identify potential scenarios for both downside and upside growth;
- assess potential for business and development of non-aeronautical activities development.

Airport Infrastructure and Capacity Development

The Relevant Authority should undertake an assessment of airport to analyse whether the existing capacity meets current and future demand.

The analysis of the airport's current conditions and future capacity should include:

- airside (airfield infrastructure including runways and taxiways, aprons);
- review airfield service compatibility with reference to aircraft demand types;
- current condition and number of parking stands (per aircraft type); including future gate requirements based on demand forecast;
- terminal complex; including details of:
    - Area size of building space, by terminal subsystem
    - Details of facilities to process passengers and baggage involved in commercial air traffic. These should include the major functions of arrival and departing passengers, including government border control facilities and security screening.
    - Historical data with respect to current number of enplaned passengers handled
    - Analysis to assess when capacity within terminal would be reached and the requirements for reconfiguration, operational changes or terminal expansion;
- Assessment of landside access including curb side and car parking facilities;
- Assessment of supporting infrastructure including utilities such as water, waste management and power.

A gap analysis report, including an assessment of the assets' 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 airport assets;
- Potential replacement / overhaul / major maintenance required and the timing thereof;
- Overall performance against benchmark (KPIs local and international) with reference to the current capacity at the airport;
- Service specifications required to meet future needs; including adherence to IATA Service Standards and any target Airport Service Quality (ASQ) rating.

Airport Financial Performance

Due diligence should be undertaken of the airport's financial performance.

To this end, the due diligence process should cover a review of aeronautical revenues, non-aeronautical revenues, and operating expenses, presenting historical and projected EBITDA and EBITDA yield (i.e., per enplaned passenger).

The various components to be analysed are as follows:

Aeronautical Revenues

The due diligence process should cover the following aspects:

- Current structure of the relevant charges (aircraft landing, parking, passenger service charges, etc.) and the applicable fee adjustment mechanism/s:
    - Base charges detailing the prevailing charges and historical revenue therefrom;
    - 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 all aeronautical revenues as well as revenue associated with other aeronautical activities, such as ramp handling, fuelling, in-flight catering, FBOs, MROs, cargo, etc.

Non-aeronautical Revenues

- Review historical non-aeronautical revenues. Non-aeronautical revenue streams include passenger related products and services, or commercial activity not directly related to airlines (or other aeronautical operations) and will encompass the following major categories:
    - commercial and retail
        - food and beverage
        - merchandise/ specialist retail/ tax and duty free
    - services (e.g., automatic teller machines, advertising, airport lounges)
    - car parking and commercial ground transportation
    - rental car
    - airport city facilities and land rentals;
- Assess non-aeronautical revenue growth and review revenue mix and opportunities for revenue maximization.

Operating Expenses

- Review operations and maintenance expenses comprising staff and non-staff costs;
- Review total operating cost per enplaned passenger and benchmark it against the median average of comparable benchmarked airports (i.e., regional airports).

Capital Expenditure

- Assess projected capital investment in new airport infrastructure and replacement and heavy maintenance costs and detail any required expenditure plans (for improvement of service levels, technological upgrade or increasing capacity) to meet expected growth in air traffic demand of the airport over the term of the concession agreement.

Legal Due Diligence

The Relevant Authority should consider the following points when conducting its legal due diligence of an airport asset:

- Institutional, legal and regulatory framework for operating airports:

    - Duration of the Project (Term) (as above);
    - Specific laws and regulations relating to operating airports;
    - Key licenses required.
- Determining which services will be retained by Relevant Authority as Relevant Authority's responsibilities/functions:
    - For example: air traffic control, customs, immigration and quarantine, security, emergency services,
    - Setting out how the Operator's services and the areas operated by the Operator will interface with these services retained by Relevant Authority;
- Land handover/site risks, including:
    - Whether to grant the Operator a lease or a right to use over the Airport assets;
    - Whether Relevant Authority can provide a "clean" site with no title issues, no contamination or other issues;
- Performance monitoring:
    - What level of output specifications the Operator needs to comply with (KPIs);
    - What are the consequences for failure to comply with the KPIs (liquidated damages/ payment deductions);
- The level of Force Majeure / Change in Law protection granted to the Operator;
- Managing the risk to operations of competing activities being developed in the vicinity of the Airport;
- Employees, and obligation to take-over existing employees of Relevant Authority;
- Termination rights of the parties and consequences of termination;
- Permitted transfer/assignment and sell-downs.

E&S and Climate Resilience Due Diligence

The Relevant Authority should consider the following issues when conducting its E&S due diligence of an airport asset:

- 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, 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:

- assessment of GHG emissions baseline of the airport asset;
- historical climate data and natural disaster events affecting the airport asset;
- review of climate and natural disasters risks of the airport asset (e.g. flood risks to airports due to increased precipitation and/or sea-level rise; temperature change; increased intensity of storms disrupting operations; changing icing conditions; changing winds; desertification; lift of aircraft reduced due to higher temperatures; increasing wildlife-strike risks due to changes in the local ecosystem);
- assessment of the Disaster Risk Management plan or Emergency Preparedness and Response plan (if any in place); and (v) assessment of integration of climate resilience concepts in maintenances regimes.

Airport Module Tools and References

Find a quick view of sample risk allocation matrix and sample terms of reference (TOR) for selecting transaction advisors for airports below, or visit the *Asset Recycling Tools and References* section of this guide to find out more.

TOR for Transaction Advisors for Airport Development

*This document has been prepared as part of the annex of the section on **Guidelines in Implementing Asset Recycling** in the **PPP Legal Resource Center (PPPLRC)** 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 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**] airport for the next [**xxx**] years under the Asset Recycling Scheme ("the Project").

Objective and Purpose of the Project

The Consultant will directly support the [**Relevant Authority**] in providing 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 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**] airport 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 airport planning, air demand traffic forecasting, airport business valuation, airport 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:

1. Feasibility Study (technical and financial) for transaction structuring;
2. Tender Process for Partner Selection;
3. 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 and Discussion
- Air 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
- Air Traffic Forecasting Expert

- Legal Expert
- Airport Regulatory and Policy Expert
- Environmental and Social and Climate Resilience Expert
- Airport Planner Expert
- Airport Economist
- Transaction Advisory Expert
- Financial Modelling and Airport 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 shall have to be agreed with the [**Relevant Authority**].

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 Air Traffic Demand Forecast Study;
- Technical assessment covering the review of existing airport and related facilities and available land areas and capacity assessment and its ability to accommodate the future passenger 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
- Specific experience 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. The 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 Airports

Sample risk matrix – Airports

Risk		Description	Public	Private	Shared	Mitigation
Operating Risk	Inadequate performance	The risk of service quality provided by the concessionaire not meeting contracted service standards or availability		x		Ensuring the appointment of a competent operator who could remediate any inadequacies in performance.
	O&M costs overrun	Risk of O&M costs being higher than forecast or budgeted .		x		Appointment of competent opera and management putting into pla timely remedial steps.
	Life cycle costs overrun	Risk of lifecycle costs being higher than forecast or budgeted		x		Appointment of competent opera and management putting into pla timely remedial steps to manage increased costs; passing of increa costs to end-users within the parameters of fee and charges 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 opera proactive asset management to ensure that assets are maintained manner that optimises costs.
	Latent Defects and Existing Liabilities	Risks of latent defects and existing liabilities in the airport assets			x	Conduct adequate technical due diligence; the Private Sector to b the risk up to a certain threshold beyond which the risk will be bo by the Public sector.
Demand/ Revenue Risks	Demand and traffic risk	Actual traffic at the airport is lower than forecast causing a shortfall in actual aeronautical revenue against budgeted revenue		x		Ensure that traffic survey and forecast are conducted by compe advisers; defer timing of capacity driven capital expenditure progra re-deployment of staff and re-calibration of level and intensity operational functions,
	Non-aeronautical revenue risk	The concessionaire fails to attract tenants or patronage at retail concessions is lower than budgeted causing a shortfall in actual vs. budget non-aeronautical revenue		x		Comprehensive feasibility study be conducted, including detailed review of Government objectives and plan; due planning and marketing initiatives.

Risk		Description	Public	Private	Shared	Mitigation
Failure to collect airport charges	Due to failure or non-optimality of collection system from passengers and airlines		x		Proven collection system and good operational performance.	
Charges setting risk	Risk that fees and 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 fees.	
Financial	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 accou currency fluctuation hedging instruments; such as future contra 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 facto interest rate hedging.
Change in law/ regulation	General change in law	Change in law such as taxation which impacts all businesses and industries		x		General change in law risk shoul borne by the concessionaire.
	Discriminatory or project specific change in law	Change in project-specific law or regulation such as fee and charges setting	x			Mediation, negotiation; political insurance;

Risk		Description	Public	Private	Shared	Mitigation
Force Majeure	Natural disasters	The occurrence of natural disasters disrupting operations			x	Insurance, to extent possible. Climate mitigation and adaptatio plan. Emergency Preparedness and Response plan (EPR plan) / Disa Risk Management plan (DRM plan). Incorporate Qualified Climate Ri Events.
	Political force majeure	Events of war, riots, civil disturbance			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 early termination.

Risk		Description	Public	Private	Shared	Mitigation
E&S Risks and Climate Risks	E&S risks management	Airport development and operation create many E&S impacts and risks, which if not appropriately managed, can result in impact on the social and natural environment. Changes to noise emission pattern and increased complaints. Changes in ecosystems and associated risks. Reduced air quality. Changes in ecosystems and distributions of wildlife and wildlife attractants.		x		The party in charge for construct and Operation and Maintenance (O&M) should have undertaken E&S Studies prepared managem plans to mitigate any adverse impacts and risks and consistent with applicable laws. Reducing the use of electricity b using renewable energy and reducing fuel consumption by us environmentally friendly ground support equipment and transportation. Sustainable landing and take-off cycle of aircraft(s) and ground support operations, single engine taxiing. Targeted charges to airlines base on noise measurement. Restrictio on flight operations during night time. Design and implementation of no control measures (e.g. noise barr along the boundaries of the airpo such as earthen mounds, walls). Solid waste management plan. Integrated vegetation manageme (IVM). Wildlife hazard management pla (WHMP), including e.g. bio-acoustic technology. Facilitate ecosystem-based adaptation. Use of supplementary cementitio materials (SCM) in concrete runways and use of recycled aggregates in taxiway and apron construction. Achieve the environmental sustainability of passenger termi (e.g. Recyclable food packaging, beverage containers and utensils. Composting and/or food

Risk	Description	Public	Private	Shared	Mitigation
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.	

Risk		Description	Public	Private	Shared	Mitigation
Climate risks *	Deterioration of runway surface integrity through softening and aircraft rutting. Flood risks to airports due to increased precipitation and/or sea level rise. Lift of aircraft reduced due to higher temperatures. Temperature change affect navigational signals and satellite coverage. Electrical power supply failed during strong winds and storms. Increasing wildlife-strike risks due to changes in the local ecosystem. Use of airport as shelter or as hub for relief operations.		x		Enhanced runway design criteria (e.g. increase height above sea-level of runaway to withstand a 1-in-100 year storm surge event). Integrate climate resilience in maintenance regimes and runaway surface specifications. Improve emergency repair procedures. Upgrade drainage systems. Installed permeable pavement to drain storm water. Installation and closure of flood/tidal gates	

** Based on "WB (2016) - Emerging Trends in Mainstreaming Climate Resilience in Large Scale, Multi-sector Infrastructure PPPs and based on "ACI Resolution 3/2018 on resilience and adaptation to climate change" and based on "Sydney Airport 2021 Response to the Task Force on Climate-related Financial Disclosures"*

Key variables to monitor on climate risks and its impacts, for airport assets:

- Runway Pavement cracking / potholes (runway area affected)
- Wildfires Events in 100km surrounding area (# of events)
- Maximum temperature and deviation vs. average monthly max temperature (in °C)
- Sea level rise (in meters)
- Flooding (airport area affected)
- Intense precipitation events (in milimetres)
- Wind speed (in km/hour)

Related Content

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

Additional Resources

- Transportation Toolkits
- Public-Private Partnerships in Airports

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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