Formal Welcome

Jose Antonio Meade Kuribreña
Minister of Finance and Public Credit (SHCP)
Mexico
Opening Remarks

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Infrastructure Prioritization

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Infrastructure Prioritization Framework:
A tool to support the infrastructure planning process

The World Bank & The Global Infrastructure Hub
Dr Cledan Mandri-Perrott & Mark Moseley

29 May 2017
Mexico City, Mexico
Contents

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2. Infrastructure Prioritization Framework (IPF)
3. Pilots: Argentina and Vietnam
4. Quality Infrastructure: Incorporating Resilience in Prioritization
5. Conclusions and Next Steps
Introduction
Governments face challenges for infrastructure planning:

- What I need? (Sector investment needs, development goals, NDP, etc.)
- What I want? (Policy objectives & political agenda)
- What I can? (budget & fiscal constraints)

Need for an objective system to compare different investment infrastructure investments option
Common challenges at the project level

• Limited / inconsistent project data availability & quality
• Limited technical and institutional capacity
• High costs and extensive time required to do SCBA appraisal across large sets of projects
• Reversion to political selection
Current Approaches to Prioritization

- Expert choice (e.g. South Korea)

- Cost benefit analysis (e.g. Chile)
  - CBA methodology well established

- Multi-criteria decision analysis (MCDA)
  - Considers multiple goals (including non-monetary factors)
  - Can deal with inherent policy tradeoffs
  - Analytic Hierarchical Process (complex decisions, includes non-quantitative info, but subjectivity of weights and “Rank Reversal”)
## Narrowing the Infra Gap

### Introduction (4/4)

<table>
<thead>
<tr>
<th>Strategy</th>
<th>Rationale for Prioritization</th>
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<tr>
<td><strong>Fund projects selectively</strong></td>
<td>In deciding amongst projects, systematic prioritization is needed to support and justify investments</td>
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<td>Identify most important projects for prioritized funding</td>
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<td><strong>Expand the budget envelope:</strong></td>
<td>To attract private capital, governments must control risks by informed project selection</td>
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<td>Attract new sources of investment capital</td>
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Infrastructure Prioritization Framework (IPF)
IPF as a Stepping Stone

Selection by IPF
- Limited institutional and/or technical capacity
- Partial project-level information available
- Some information on social, environmental, other economic effects
- Decisions based on minimum relevant information

Selection informed by full SCBA
- High technical and institutional capacity
- Detailed project-level information available
- Extensive quantified and monetized social, environmental, financial and economic effects known
- Selection using NPVs or ERRs

Ad-Hoc project selection
- Limited project-level information
- Inconsistent use of information
- Decisions frequently based on non-technical or political considerations
- Subjective assessment
Advantages of the IPF

The IPF is a multi-criteria approach to project prioritization

1. Can be adapted to account for policy goals*
2. Combines social-environmental and financial-economic variables
3. Accommodates to data and resource limitations
4. Includes the sector budget constraint
5. Displays information in a simple visual interface
6. Informs discussion of rebalancing sector allocations
7. Improves data collection processes*
The IPF Process

I. Define Criteria
Consensus between decision makers, experts, and key stakeholders

II. Prepare Data
Source project data (CBA elements incorporated when available)

III. Construct Performance Indices
Includes statistical / mathematical methods to combine selected variables into two dimensions

IV. IPF Matrix
Combine SEI, FEI, and budget constraint to create a four-quadrant matrix

V. Select Projects
Based on informed deliberation
Two-Dimensional Structure

Social-Environmental Indicators (SEI) (example)
- Beneficiaries*
- Affected population*
- Environmental effects*
- Poverty levels*

Financial-Economic Indicators (FEI) (example)
- Benefit-cost ratio*
- Multiplier effects*
- Externalities*
- Implementation risks*

Fundable projects given the budget constraint
IPF Matrix

- \((x, y)\) coordinates are defined by the (FEI, SEI) score pair
1. Principal Component Analysis (PCA) to combine criteria
   - Maximization problem with one constraint
   - Maximization problem with two constraints

2. Sensitivity analysis to compare results with other weighting methods
   - Subjective weighting (defined by sector ministry, Expert Panel etc)
   - Simple average
Pilots:
Argentina (Irrigation)
Sri Lanka (National Roads)
Vietnam (Transport, Urban)
Argentina: Irrigation (1/3)

- 45 irrigation projects pre-identified by the government
- The goal is to prioritize and explore PPP scheme options
- The process included experts / decision-makers from Ministry of Public Works, FAO-UN, WB experts
Argentina: Irrigation (2/3)

Social-Environmental Indicators (SEI)
- Beneficiaries*
- Direct Jobs*
- NBI: Unsatisfied Basic Needs*
- Environmental impact*
- Hydraulic stress*

Financial-Economic Indicators (FEI)
- IRR*
- Implementation risks
  - Institutional factors*
  - Water supply*
  - Soil productivity*

Sensitivity analysis to compare results with other weighting methods
- PCA
- PCA with two constraints (2 scenarios)
- Simple average
- Subjective weighting (defined by FAO, MOP)
• Identification of potential PPPs from high priority projects
Sri Lanka: National Roads

- Transport projects (national roads) pre-identified by the National Planning Department (NPD)*
- Existing multi-criteria approach to prioritization at NPD
- Discussion on existing criteria to prioritize investments

**Social-Environmental Indicators (SEI)**
- Beneficiaries*
- Jobs created*
- Resettlement*
- Environmental impact*
- Safety*
- Surface condition

**Financial-Economic Indicators (FEI)**
- Benefit-Cost ratio*
- Connectivity (# of nodes for improved national roads)
Rebalancing sectors toward high SEI urban projects would allow the government to reach 600,000 additional beneficiaries and create 1600 new jobs.
Other Pilots

☑ Chile: Comparison with prioritization system
  - 2 Sectors; transport and water reservoirs
  - CBA is requirement for project to be eligible for funds (IRR>6%)

☑ Japan: Infrastructure Resilience & Prioritization of projects
  - Discussions with Tokyo University

☑ Indonesia: Platform to prioritize investments
Quality Infrastructure: Incorporating Resilience in Prioritization
Incorporating Resilience in Prioritization

Economic Efficiency
- Adopting life-cycle costs
- Rated criteria for non-price attributes
- Operational improvements

Safety
- Operational safety and durability via improved construction standards
- Use of management information systems and smart design

Environmental and Social Sustainability
- Minimize harmful environmental impacts
- Improve welfare
- Inclusion, gender, and accessibility considerations
- Robust risk-assessment framework

Economic and Social Contribution
- Small and medium enterprise development
- Job creation
- Enhanced competitiveness

Resilience against Natural Disasters
- Resilience against natural disasters through design
- Systems for disaster preparation and response
Financial-Economic Indicators (FEI)
- Cost-benefit ratio (partial CBA)
- Multiplier effects
- Externalities (e.g., costs avoided)
- Implementation risks

Social-Environmental Indicators (SEI)
- Beneficiaries
- Environmental risks and impacts
- Poverty
- Job creation
- Resettlement / cultural impacts

Challenge:
Incorporate resilience into decision-making at this level
QII: Incorporating Resilience in Prioritization

**FEI**
- **Economic Efficiency**
  - Adopting life-cycle costs
  - Rated criteria for non-price attributes
  - Operational improvements

- **Safety**
  - Operational safety and durability via improved construction standards
  - Use of management information systems and smart design

**SEI**
- **Environmental and Social Sustainability**
  - Minimize harmful environmental impacts
  - Improve welfare
  - Inclusion, gender, and accessibility considerations
  - Robust risk-assessment framework

- **Economic and Social Contribution**
  - Small and medium enterprise development
  - Job creation
  - Enhanced competitiveness

**Resilience against Natural Disasters**
- Resilience against natural disasters through design
- Systems for disaster preparation and response
Conclusions and Next Steps
Conclusions (1/2)

The IPF tool is a simple and practical system for objective prioritization of infrastructure projects:

✓ Allows for better use of public funds
✓ Combines social/environmental with financial/economic indicators
✓ Allows comparisons of projects within each sector
✓ Offers a mechanism for sector re-allocation
✓ Provides decision makers with a visual interface
Going forward IPF tool can be incorporated to:

✓ Improve **data collection** systems and integrate into sector planning functions
✓ Incorporate **urgency**: classify immediate versus median- and long-term priorities
✓ Develop systematic **climate resilient** infrastructure
✓ Assess **trade-offs** between ‘normal’ and client resilient infrastructure
✓ Effect of **“emblematic projects”** can be assessed and mapped
Thank you
Coffee Break

Location: Salon Tesoreria
PPP Project Selection

Shyamala Shukla, Senior Specialist of Infrastructure & PPP, World Bank
Morag Baird, Principal Policy Adviser, Global Infrastructure Hub
Global Infrastructure Hub | A G20 Initiative
PPP Project Screening Tool: Introduction

2017 Global Infrastructure Hub Conference, Mexico

Morag Baird, Principal Policy Adviser, GI Hub
Global Infrastructure Hub

The mandate – from the G20 Leaders’ Communique, Brisbane, November 2014

Five focus areas

Promoting Leading Practices that can be replicated at scale for transformational impact

Building a global Project Pipeline to help match investors and projects

Identifying and addressing Data Gaps that matter to governments and investors

Building Capacity within public sector and other stakeholders

Creating a global Knowledge Network of infrastructure leaders and practitioners in Governments, International Organisations & the Private Sector
Introduction:

Context: Selecting the right projects and delivery methods

• Infrastructure policies, framework and delivery environment

• Infrastructure planning and prioritisation (targeting needs)

• Selecting the appropriate delivery method for the prioritised infrastructure projects (targeting value for money and affordability)
PPP Project Screening and Selection

GI Hub collaborating with World Bank on the PPP Screening tool

- Considers screening/selection of PPP delivery approach to identify projects best suited as PPP transactions
- Based on a survey of current leading international practices
- Selection of the appropriate delivery approach is an iterative process.
- PPP screening will help identify those projects to take forward for more detailed assessment
- Dimensions identified in international best practice on PPP screening include:
  - Strategic suitability (clear identification of need and alignment with government priorities)
  - Prefeasibility (technical, environmental, social, economic, financial and legal)
  - Risk assessment
  - VfM and market appetite
  - Affordability
  - Institutional preparedness and execution capacity
Screening Projects for Implementation as Public-Private Partnerships
Contents

- Introduction
- Background
- What the Tool does?
- What the Tool doesn’t do?
- Overview of the Model
- Detailed Scoring Methodology
Introduction

Context
- Complexity of PPPs
- Significant upfront project development expenses
- Need to understand as much about a project as possible early on
- 2014 Independent Evaluation Group (IEG) recommendation – translation of WBG’s strategic intentions into operational frameworks/ tools

Objective
- To ascertain potential suitability of projects for PPP
- Reasonably robust early stage screening using a mix of key quantitative and qualitative elements

Scope
- More effective for projects with preliminary feasibility / outline business case level data
- Generic prototype, customizable for country-specific needs/ priorities
Background

- Practice in OECD and non-OECD countries
- Representation of regions
- Mature and less mature PPP markets
- Sub-national experience
- Tool Mechanics
  - Parameters
  - Scoring and weights
  - Pre-requisites, fail/no go parameters
  - Quantitative vs Qualitative

Review of Country Practice

Review of Existing Tools

OECD Workshop, Paris, December 5, 2017

- Acknowledgement of importance of the work
- PPP Procurement Benchmarking Study provides evidence of urgency
- Integration of the investment and PPP decision
- Importance of qualitative criteria
- Flexibility to cater to policy drivers
- Incorporation of multiple criteria
- Designating pass/fail criteria

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## Case Examples- Substantive Elements

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## Case Examples - Mechanics of Tools

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### Case Examples - Mechanics of Tools

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<th>Nature</th>
<th>Analysis</th>
<th>Evidence</th>
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<td>-PPP Pipeline</td>
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What the Tool does?

### Six key dimensions
- Weighted aggregates of scores on six parameters:
  - Strategic Suitability
  - Preliminary Feasibility
  - Risk Assessment
  - PPP Suitability (VfM, Market Appetite)
  - Fiscal Affordability
  - Institutional Capability
- Sub-Parameters and Questions at second and third level
- Links Parameters with Quantitative Elements
- Variability of some Questions based on initial project data

### User friendly approach
- Easy data input screens
- Drop-down menus for qualitative questions
- Scores (between 0-5)
- Dashboard with key conclusions
- Detailed Output Sheet

### Decision-makers’ tool
- Pre-requisites
- Potential Deal Breakers
- Areas of strength and weakness of the project and suggestions
What the Tool doesn’t do?

- Not a substitute for a full feasibility analysis
- Does not compute quantitative indicators
- Does not verify the information provided by user

- Early stage screening with limited information
- Favorable score to be followed up with detailed studies
- Balance between reliance on score and qualitative highlights

- Does not calculate or compute project indicators
- Uses data from calculations, e.g. high level feasibility analyses

- Soundness of analysis based on inputs
- Accompanying documentation important
# Substance of the Tool: Sub-Parameters and Questions

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<th>Project Suitability</th>
<th>Preliminary Feasibility</th>
<th>Risk Assessment</th>
<th>PPP Suitability</th>
<th>Fiscal Affordability</th>
<th>Institutional Capability</th>
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<td>• Technical</td>
<td>• Market/demand</td>
<td>• VfM</td>
<td>• Extent and nature of government fiscal support</td>
<td>• Institutional capacity</td>
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<td>• Identification of service need</td>
<td>• Environmental</td>
<td>• Off-taker</td>
<td>• Market appetite</td>
<td>• Preparedness of Contracting Authority</td>
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<td>• Assessment of delivery options</td>
<td>• Social</td>
<td>• Forex</td>
<td></td>
<td>• Quantification of fiscal support</td>
<td>• Project execution of contracting authority</td>
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<tr>
<td>• Scoping of project</td>
<td>• Economic</td>
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<td>• Financial</td>
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<td>• Design and construction</td>
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<td></td>
<td></td>
<td>• Operation and maintenance</td>
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- VfM: Value for Money
- PPP: Public Private Partnership

- Institutional capacity
- Preparedness of Contracting Authority
- Project execution of contracting authority
Overview of the Model

**INPUTS**

1. Basic Project Data
   - Location
   - Sector
   - Performance
   - Proposed Project
   - Expected Duration
   - USD
   - Source of Project
   - Reasonable Study of Availability of Proposers in a Country or Region
   - Expected Duration
   - Per Unit
   - Land Rights
   - Reasonable Range for the Fundamental and Institutional
   - Reasonable Range for the Fundamental and Institutional
   - Per Unit
   - Project Risk
   - Project Risk
   - Project Risk
   - Project Risk
   - Project Risk
   - Project Risk
   - Project Risk

**OUTPUTS**

1. Dashboard
2. Detailed Output Sheet

**Outputs reflected in Dashboard and Detailed Output Sheets**

**Respond to questions via drop down menu options in the parameter sheets 2-7**

**Administrator Sheet**

User can alter parameter weights, pre-requisite and deal breakers herein

**Outputs reflected in Dashboard and Detailed Output Sheets**

Project specific data needs to be provided in the input boxes highlighted in blue

- Strategic Suitability
- Preliminary Feasibility
- Risk Assessment
- PPP Suitability
- Fiscal Affordability
- Institutional Capability
### Customise the Tool: Admin Sheet

In the Administrator Sheet, the user can customise the weights of Parameters and Sub Parameters, if required.

- Default weight are provided for Parameters and Sub Parameters, which can be altered by setting the intended Parameter or Sub Parameter weight in the input(%) column.
- Flexibility to alter weights is constrained to a maximum ceiling of 80% and a lowest floor of 5%.
- Checking the ‘Reset All’ box at the top resets all Parameter weights to default.
- Checking the ‘Reset’ boxes above the Sub Parameter resets to default weights of Sub parameters.
- The sheet also displays the impact of the weight on the respective scores.
Admin sheet also gives flexibility to the User to choose which conditions should appear as Pre requisites and Potential Deal Breakers by clicking on the Checkbox.

**Pre-requisite questions** - Implies the basic requirements that the Project should fulfil

- These questions show up in the Basic Project data sheet. If the User answers ‘No’ to any of the Pre-requisite questions a warning gets triggered to re-check

**Potential Deal Breakers** - Implies the basic requirements at the Sub Parameter level which can become a show stopper for the project

- Potential Deal Breaker questions show up in the relevant Parameter sheets
- When a User answers a Potential Deal Breaker question in the negative, warning message flashes on the dashboard and the Parameter sheet

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<th>Sr. No.</th>
<th>Potential Deal Breaker</th>
<th>Applicable</th>
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<tbody>
<tr>
<td>1</td>
<td>Is there a clear articulation and substantiation of the service deficiency?</td>
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<td>2</td>
<td>Has there been an assessment of all possible technical solutions to address the identified need?</td>
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<td>3</td>
<td>Are the technical cost estimates in line with required output specifications and based on established benchmarks?</td>
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<td>4</td>
<td>Is the proposed site location adequately accessible and offers manageable challenges during construction?</td>
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<td>5</td>
<td>The project will not have a negative impact on any natural resources or protected land.</td>
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<td>6</td>
<td>The project is likely to be socially sustainable or have manageable social impacts?</td>
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<td>7</td>
<td>Is there support for the project from affected communities and other key stakeholders?</td>
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<td>8</td>
<td>Is the collective impact of fiscal commitments likely to be within acceptable levels and not have a significant adverse impact on government’s future budgets or fiscal space?</td>
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Basic Project Details Sheet

Project information is entered by the User as inputs

- **Pre-requisite conditions**: Warning message is flashed if the User selects No to any of the questions chosen as pre-requisites on the Admin sheet.

- **Decision Tree related questions**: Applicable questions related to the following options show up on subsequent sheets depending on the User responses:
  - **Project type**: The Project type to be indicated here depending on if it’s a Construction, Operations & Maintenance or involves both.
  - **Source of Project Revenue**: User Input will help in showing relevant questions for User charges/annuity payments/hybrid payments in the subsequent sheets.
  - **Government Support**: Yes/No based question.
  - **Numbers**: Yes/No based question.

### Pre-requisite conditions

- If the User selects No to any of the questions chosen as pre-requisites on the Admin sheet.

### Decision Tree related questions

- **Project type**: The Project type to be indicated here depending on if it’s a Construction, Operations & Maintenance or involves both.
- **Source of Project Revenue**: User Input will help in showing relevant questions for User charges/annuity payments/hybrid payments in the subsequent sheets.
- **Government Support**: Yes/No based question.
- **Numbers**: Yes/No based question.

### Numbers

- If the number fields under land status, value-for-money, return expectations and foreign exchange risk profile are left blank then only qualitative questions will be asked in the respective sheets for assessing the overall scores.
Basic Project Details Sheet (...continued)

Numerical data related to the Project needs to be entered by the User as inputs

- **Government Support** – To gauge their magnitude, inputs on estimates of Direct and Indirect Liabilities emanating from the project expressed as % of GDP.

- **Land Status** – To gauge the complexity of land acquisition, the extent of land to be acquired and the impacted land owners needs to be provided.

- **VFM** – To examine the quantum of benefit derived by government from the PPP, inputs are sought on VFM expressed as % of cost of the public sector project comparator.

- **Return Expectations** – To assess the financial viability of the PPP, inputs related to Internal Rate of Return, Minimum Debt Service Coverage Ratio are sought for base case and stress case scenarios.

- **Foreign Exchange Risk Profile** – If the project is exposed to this risk, then historical data on currency depreciation is sought to get an indication of the magnitude of this potential risk.
### Snapshot of Parameter Sheet

#### OUTPUT

- **Speedometer**
  - Displays overall score of the Parameter

- **Admin and Dashboard icons**
  - Hyperlinks to respective sheets

- **Overall Comment Box**
  - Displays an overall recommendation on the Parameter

#### INPUT

- **Hyperlinks to Explanatory Notes**
  - User can access information to clarify on the question asked.

- **Questionnaire**
  - User chooses a response from a menu of options. Each option is assigned different scores

- **Note**
  - Displays guidance to users on filling of the Sheet

- **Comments Column**
  - User can place their corresponding comments while responding to questions

---

### Table: Strategic Suitability

<table>
<thead>
<tr>
<th>Sub Parameter</th>
<th>Questionnaire</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Identification of Market Need</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Market Size</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Market Growth Rate</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Market Penetration</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Market Share</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Market Entry Barriers</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Competitive Landscape</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Financial Feasibility</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Break-even Analysis</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Profit Margins</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cash Flow Projections</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Break-even Analysis</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Financial Feasibility</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Break-even Analysis</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Financial Feasibility</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

---

**Overall Comment**: Moderately Viable.
Dashboard

Provides overall project score and related commentary

Highlights potential deal breakers

Highlights proportion of questions skipped or uncertain. Therefore, would require further examination and resolution.

Provides parameter (I-VI) wise snapshot and comments

Highlights areas to strengthen and improve

Components

- Provides overall project score and related commentary
- Highlights potential deal breakers
- Highlights proportion of questions skipped or uncertain. Therefore, would require further examination and resolution.
- Provides parameter (I-VI) wise snapshot and comments

Reading the Project Score

Qualifying Projects:

- Projects that would overall pass the PST would fall between Moderately Adequate to Very Strong
- All Pre-requisites met
- All or most of Potential Deal Breakers fulfilled
Detailed Output Sheet

- Shows the complete summary of User responses at one place
- Printer friendly version
- Shows Pre-requisite conditions and Potential DBCs
- Shows the percentage of questions marked as No/Skipped/N/A/Uncertain
Detailed Scoring Methodology

<table>
<thead>
<tr>
<th>Providing the User Responses</th>
<th>What the score means?</th>
</tr>
</thead>
<tbody>
<tr>
<td>❑ User provides basic Project related information in the ‘Basic Project Data Sheet’</td>
<td>1. Yes - Score of 1, The user agrees with the question statement</td>
</tr>
<tr>
<td>❑ The User responses also has an impact on Decision Tree questions</td>
<td>2. No- Score of 0, The user disagrees with the question statement</td>
</tr>
<tr>
<td>❑ Questions are populated for the subsequent sheets on the basis of the user responses</td>
<td>3. Uncertain- Score of 0.5, Data and analysis may be available for this, however, response is neither a definite NO nor a YES</td>
</tr>
<tr>
<td>❑ Question weights get determined on the basis of applicable questions</td>
<td>4. Skip- Score of 0, The question statement applies to the project, but there is insufficient information to make an informed response</td>
</tr>
<tr>
<td>❑ Drop down menu provided to User on the Parameter sheets</td>
<td>5. N/A-Score of 0, The question does not apply to the project</td>
</tr>
<tr>
<td>❑ The chosen responses are assigned scores</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>No.</th>
<th>Description</th>
<th>Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Technical Prefeasibility</td>
<td></td>
</tr>
<tr>
<td>(i)</td>
<td>Is the project based on well established technology?</td>
<td>Yes</td>
</tr>
<tr>
<td>(ii)</td>
<td>Is the project's scope of work comparable to other reference projects?</td>
<td>Yes</td>
</tr>
<tr>
<td>(iii)</td>
<td>Are the technical cost estimates in line with required output specifications and based on established?</td>
<td>Yes</td>
</tr>
<tr>
<td>(iv)</td>
<td>Are the life cycle costs for major components of the project - reasonable and affordable?</td>
<td>Yes</td>
</tr>
<tr>
<td>(v)</td>
<td>Has the site suitability assessment been done for the recommended site?</td>
<td>Yes</td>
</tr>
<tr>
<td>(vi)</td>
<td>Is the proposed site location adequately accessible and offers manageable challenges during construction?</td>
<td>Yes</td>
</tr>
<tr>
<td>(vii)</td>
<td>Will the project be able to source the required skills locally or from overseas, in relation to the project's Construction, Operations and Maintenance?</td>
<td>Yes</td>
</tr>
</tbody>
</table>

User responses selected

Question weights getting allocated on the basis of applicable questions
### Detailed Scoring Methodology

#### Checking for Skip and N/A

- Check for the number of questions marked uncertain or skipped or N/A
- Weights for questions that are selected N/A get re-distributed
- Questions skipped are penalized and weights don’t get re-distributed
- Re-distributed weight is multiplied with the associated score to arrive at the Question wise weighted score
- The question wise weighted score gets scaled up to 5

<table>
<thead>
<tr>
<th>No.</th>
<th>Question</th>
<th>Questions Applicable</th>
<th>Responses</th>
<th>Question Weights Applicable</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Extent and Nature of Government Fiscal Support</td>
<td>4</td>
<td>40%</td>
<td>0%</td>
</tr>
<tr>
<td>(i)</td>
<td>Does the proposal include a clear rationale for government support and it is consistent with applicable laws and government support policies?</td>
<td>1</td>
<td>25%</td>
<td>N/A</td>
</tr>
<tr>
<td>(ii)</td>
<td>Is there an assessment of various options to minimize requirement of government support? Such as the options for additional sources of revenue, tariff adjustments, optimizing project scope and/or adjusting contract performance?</td>
<td>1</td>
<td>25%</td>
<td>Skip</td>
</tr>
<tr>
<td>(iii)</td>
<td>Has the level of government support been benchmarked to comparable projects, either at a national level or at a regional level?</td>
<td>1</td>
<td>25%</td>
<td>Yes</td>
</tr>
<tr>
<td>(iv)</td>
<td>Will there be a competitive pressure in market determination of government support?</td>
<td>1</td>
<td>25%</td>
<td>Yes</td>
</tr>
</tbody>
</table>
Detailed Scoring Methodology

Sub Parameter Score Constraint

- Total Scores get constrained at the back end for Sub parameters where the User has selected:
  - Too many Uncertain responses
  - Too many N/A as responses
  - Too many No as responses
  - Too many Skips

2 Financing Risk

(i) Have similar PPP projects been financially closed in the country or region?
(ii) Are there financiers (nationally or regionally) who will be interested in the PPP?
(iii) Will financial close be a condition precedent to the effectiveness of PPP agreement?
(iv) Can it be reasonably expected that financial close will not get delayed to materially affect the conditions of effectiveness of PPP agreement?

<table>
<thead>
<tr>
<th>No.</th>
<th>Question</th>
<th>Questions Applicable</th>
<th>Weight</th>
<th>Response</th>
<th>Question Wise Weighted Score</th>
<th>Sub Parameter Wise Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>Financing Risk</td>
<td></td>
<td>4</td>
<td>14%</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(i) Have similar PPP projects been financially closed in the country or region?</td>
<td>1</td>
<td>25%</td>
<td>Uncertain</td>
<td>0.13</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(ii) Are there financiers (nationally or regionally) who will be interested in the PPP?</td>
<td>1</td>
<td>25%</td>
<td>Uncertain</td>
<td>0.13</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(iii) Will financial close be a condition precedent to the effectiveness of PPP agreement?</td>
<td>1</td>
<td>25%</td>
<td>Yes</td>
<td>0.25</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(iv) Can it be reasonably expected that financial close will not get delayed to materially affect the conditions of effectiveness of PPP agreement?</td>
<td>1</td>
<td>25%</td>
<td>Uncertain</td>
<td>0.13</td>
<td></td>
</tr>
</tbody>
</table>

Score constrained to 2.5
**Detailed Scoring Methodology**

**Magnitude and Complexity Scores**
These scores are weighted averages into risks of delays in land acquisition, economic prefeasibility, financial prefeasibility, foreign exchange risk, fiscal affordability to incorporate the magnitude of these risk factors.

**Score for Risk of Delay in Land acquisition**

\[
\text{LA Complexity Score} = \text{Complexity Score based on user estimates} + \text{Score based on responses to Questions under LA risks in risk assessment sheet}
\]

<table>
<thead>
<tr>
<th>Potential Land owners</th>
<th>Scores from 1-5</th>
</tr>
</thead>
<tbody>
<tr>
<td>&gt;1000</td>
<td>High</td>
</tr>
<tr>
<td>501-1000</td>
<td>Med-High</td>
</tr>
<tr>
<td>101-500</td>
<td>Moderate</td>
</tr>
<tr>
<td>51-100</td>
<td>Med-Low</td>
</tr>
<tr>
<td>&lt;50</td>
<td>Low</td>
</tr>
<tr>
<td></td>
<td>Low</td>
</tr>
</tbody>
</table>

**Score for Economic Pre feasibility**

\[
\text{Economic Prefeasibility} = \text{Complexity Score based on user estimates} + \text{Score based on responses to Questions under Economic Analysis in Pre-Feasibility sheet}
\]

<table>
<thead>
<tr>
<th>Extent of Land to be Acquired</th>
<th>Scores from 1-5</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;50</td>
<td>Low</td>
</tr>
<tr>
<td>51-250 Ha</td>
<td>Med-Low</td>
</tr>
<tr>
<td>251-500 Ha</td>
<td>Moderate</td>
</tr>
<tr>
<td>&gt;500 Ha</td>
<td>Med-High</td>
</tr>
<tr>
<td>&gt;1000 Ha</td>
<td>High</td>
</tr>
<tr>
<td>Extent of Land to be Acquired</td>
<td></td>
</tr>
</tbody>
</table>

**ERR Score**

<table>
<thead>
<tr>
<th>Scores from 1-5</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
</tr>
<tr>
<td>2</td>
</tr>
<tr>
<td>3</td>
</tr>
<tr>
<td>4</td>
</tr>
<tr>
<td>5</td>
</tr>
</tbody>
</table>

| High           |
| Med-High       |
| Moderate       |
| Med-Low        |
| Low            |

| >22%           |
| 17%-22%        |
| 12%-17%        |
| 5%-12%         |
| <5%            |
Detailed Scoring Methodology

Magnitude and Complexity Scores
These scores are that are weighted averaged into risks of delays in land acquisition, economic prefeasibility, financial prefeasibility, foreign exchange risk, fiscal affordability to incorporate the magnitude of these risk factors.

Score for Financial Pre Feasibility = 50% Complexity Score based on user estimates + 50% Score based on responses to Questions under Financial Pre Feasibility in Pre-Feasibility sheet

Geometric mean of the following:

**Financial Feasibility**

<table>
<thead>
<tr>
<th>Scores from 1-5</th>
<th>&lt;0.5</th>
<th>0.5-1</th>
<th>1-1.5</th>
<th>1.5-2</th>
<th>&gt;2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low</td>
<td>3</td>
<td>2.5</td>
<td>2</td>
<td>1.5</td>
<td>1</td>
</tr>
<tr>
<td>Med-Low</td>
<td>3.5</td>
<td>3</td>
<td>2.5</td>
<td>2</td>
<td>1.5</td>
</tr>
<tr>
<td>Moderate</td>
<td>4</td>
<td>3.5</td>
<td>3</td>
<td>2.5</td>
<td>2</td>
</tr>
<tr>
<td>Med-High</td>
<td>4.5</td>
<td>4</td>
<td>3.5</td>
<td>3</td>
<td>2.5</td>
</tr>
<tr>
<td>High</td>
<td>5</td>
<td>4.5</td>
<td>4</td>
<td>3.5</td>
<td>3</td>
</tr>
</tbody>
</table>

**Fiscal Affordability Score**

<table>
<thead>
<tr>
<th>Scores from 1-5</th>
<th>&gt;0.5%</th>
<th>0.25%-0.5%</th>
<th>0%-0.25%</th>
<th>&lt;0.25%-0%</th>
<th>&lt;0.25%</th>
</tr>
</thead>
<tbody>
<tr>
<td>High</td>
<td>3</td>
<td>2.5</td>
<td>2</td>
<td>1.5</td>
<td>1</td>
</tr>
<tr>
<td>Med-High</td>
<td>3.5</td>
<td>3</td>
<td>2.5</td>
<td>2</td>
<td>1.5</td>
</tr>
<tr>
<td>Moderate</td>
<td>4</td>
<td>3.5</td>
<td>3</td>
<td>2.5</td>
<td>2</td>
</tr>
<tr>
<td>Med-Low</td>
<td>4.5</td>
<td>4</td>
<td>3.5</td>
<td>3</td>
<td>2.5</td>
</tr>
<tr>
<td>Low</td>
<td>5</td>
<td>4.5</td>
<td>4</td>
<td>3.5</td>
<td>3</td>
</tr>
</tbody>
</table>

5 Financial Prefeasibility
(i) Is there a preliminary financial analysis based on assessment of net present value or internal rate of return of project’s cash flows and cost of capital considerations?
Yes
(ii) Are the user charge assumptions backed by user surveys or consistent with the tariff in similar projects?
Yes
(iii) Are the demand or volume projections backed by surveys or demand forecasting models using reliable historical data?
No
(iv) Are the financing assumptions comparable to similar projects? Such as, the debt-to-equity ratio, interest rate and tenure of debt, and cost of equity.
No
Detailed Scoring Methodology

Arriving at the Overall Project Score

- The Sum of the Sub Parameters Scores gives the total score for the Parameter
- The Parameter score is further multiplied with Parameter weights to arrive at the weighted parameter score
- Sum of the weighted parameter score gives the Overall Project Score

Overall Score on Dashboard

Overall Project Comments

The project is well suited to be developed as a PPP. Proceed ahead with project preparation but prepare a clear strategy to address the identified issues.

Prepare a comprehensive feasibility study to firm up the project fundamentals and address the identified issues.

- Percentage of Prerequisites triggered: 0%
- Percentage of Prerequisites marked uncertain: 0%
- Percentage of Questions skipped: 2%
- Percentage of Questions marked uncertain: 14%
- Potential Deal breakers triggered: 0
- Potential Deal breakers skipped: 0%
- Potential Deal breakers marked uncertain: 0%
The tool is a joint product of the WBG, PPIAF, GIH and OECD
Crisil Risk and Infrastructure Limited has been retained by the World Bank to assist in producing the tool

You can email your questions to:
Shyamala Shukla, Senior Specialist, World Bank Group, Infrastructure, PPPs and Guarantees:
sshukla2@worldbank.org
Morag Baird, Principal Policy Advisor, Global Infrastructure Hub, morag.baird@GIHUB.org
Rob Richards, Consultant, World Bank Group, Infrastructure, PPPs and Guarantees:
rrichards@worldbank.org
Abhijeet Giri: Associate Director, Crisil Risk and Infrastructure Solutions Limited
Abhijeet.giri@crisil.com
Pratyush Prashant: Crisil Risk and Infrastructure Solutions Limited
pratyushprashant@gmail.com
Rakesh Bangera, Crisil Risk and Infrastructure Solutions Limited
Rakeshbangera.in@gmail.com
Innovative Investment Vehicles for Infrastructure Development in Mexico

Alberto Torres, Deputy Undersecretary for Public Credit, SHCP, Mexico
Alonso Diaz Etienne, President, Mexican Private Equity Association
Alonso Garcia Tames, Director, CDPQ, Mexico
Juan Manuel Valle Pereña, Director-General, Afore XXI Banorte, Mexico
Jaime Martinez-Negrete Espinosa, President & Country Head, Morgan Stanley, Mexico
Lunch

Keynote – Mauricio Cardenas Santamaria, Minister of Finance, Colombia

Please proceed to: Antiguo Palacio del Arzobispado
GI Hub Project Pipeline & Mexico Projects Hub

Richard Timbs, Senior Director, Global Infrastructure Hub

Sergio Forte Gomez, Head of the Office for Investor Relations and Investment Project Hub, Mexico
The GI Hub mandate from the G20:

As set out from the 2014 G20 Leaders’ Summit:

“to ensure that there is a comprehensive, open source database, connected to national and multilateral development bank databases, to help match potential investors with projects.”
Why is a consolidated Project Pipeline wanted?

There is a recognised desire from the private sector to be able to access a single consolidated and standardised global pipeline of projects. Investors generally see existing country level pipeline information as of mixed quality and not overly useful in assisting them to focus their activity in advance.

The main attributes the private sector is seeking in a project pipeline database are:

- Advance visibility of upcoming Government endorsed projects to allow them to properly prepare
- Transparency and clarity on how projects are progressing from project conception to commencement of operations, including relevant information at all stages
- Comparability of projects across countries

Research examining existing pipeline information at the country level and among multilateral development banks indicated significant variability in the information disclosed.
Private Sector Feedback

The GI Hub consulted with private sector infrastructure participants on both the current country level information and the content of a Global Pipeline in order to ensure that the Pipeline addressed the needs of the private sector.

Private Sector Quotes:

- We want to determine which deals are real and which are not
- Ability to link to the latest project documentation would be useful
- Need to differentiate a 'problem' that’s identified to a ‘solution’ which is a project that can be invested in
- It needs to detail which feasibility and business case studies have been completed
- Project information needs to be kept up to date to stay relevant
- It needs to identify whether a project has a recommendation from an independent infrastructure body
- A template makes sense and reflects useful information for investors
- Detailing the level of government endorsement will be ideal
- Currently it is difficult to compare projects across jurisdictions because each ‘pipeline’ has different information
Global Pipeline Differentiators

Two critical ways in which the Global Pipeline is different from other market offerings are:

- It relies on information supplied directly by Government bodies / sponsors who will take responsibility for the integrity and accuracy of information as opposed to commercial databases which rely on public information.

- It is designed to address (as far as practicable) the desires of the private sector.

The Pipeline has standardised stages and inputs, to assist comparisons across countries, sectors and projects.
## Proposed Project Stages for Pipeline

The project stages for the Pipeline are shown below. At each stage relevant information is required to be submitted to indicate the amount of work done and to inform users of the specifics of progress achieved.

<table>
<thead>
<tr>
<th>Stage</th>
<th>Stage Name</th>
<th>Sample of Information Fields</th>
</tr>
</thead>
</table>
| 1     | Initial Government Announcement | • Country, Sector  
• Indicative Timetable  
• Project Description  
• Project Rational |
| 2     | Project Investigation | • Indicative estimated cost  
• Indicative Funding Source  
• Overview of which studies will be completed  
• Opportunity for Private Sector Involvement |
| 3     | Commencement of Project Feasibility / Business Case | • Details of advisors appointed  
• Indicative roles for private sector – construction, equity etc.  
• Estimated time to procurement |
| 4     | Completion of Project Feasibility / Business Case | • Project timeline  
• Details for next step of the project updated |
| 5     | Government Approval to Proceed / Procurement Stage | • Link to government procurement Site  
• Estimated time for procurement phase |
| 6     | Successful / Preferred Proponent | • Named consortium including members.  
• Estimated construction and operations commencement |
| 7     | Financial Close / Construction-Development Commencement | • Project Cost  
• Details of government & other support.  
• Credit rating of debt if applicable |
| 8     | Operations Phase | • Commencement of operations details |
Features of the GI Hub Project Pipeline

- Designed in a market endorsed format to address preferences and needs of the private sector.

- Search functionality that enable users to search and to compare projects across multiple criteria (country, sector, project stage, private sector role).

- Easy to use for both governments contributing projects and users.

- Free of charge for all users.
## Major Benefits for the Public and Private Sectors

### PUBLIC SECTOR
- Powerful yet easy way for government to engage and interact with the private sector
- Provides platform for governments to obtain the greatest exposure for their projects to private sector globally in a market endorsed format
- Complementary to existing government pipelines and databases
- Can be linked to existing government documents, websites and other relevant information sources
- Within countries can be used at national, regional or sub-national level

### PRIVATE SECTOR
- The advanced project visibility provided by the Pipeline enables private sector to prepare early in assessing opportunities
- Provides information on government projects in standardized stages to facilitate transparency, consistency and comparability across countries, regions and markets
- Allows private sector to gauge the track record of project progress in a particular country
- Allows users to follow projects they are most interested in and to be advised when those projects are progressing through stages
The Global Infrastructure Hub Project Pipeline is a dynamic database of future and current government infrastructure projects, allowing projects to be tracked from conception to completion.

The Pipeline displays projects in a standardised format according to 8 defined stages through the project lifecycle, showing summary information relevant to each stage. As each stage of a project is completed the Pipeline is updated so users can follow the progress of projects that they are interested in.

Information is provided directly by governments ensuring accuracy of data. To read more detail about the features of the Pipeline including how to customise the Pipeline to your preferences please see “User Information”.

### Project Stages

- Stage 1: Initial Government Announcement
- Stage 2: Project Investigation
- Stage 3: Commencement of Project Feasibility / Business Case
- Stage 4: Comparison of Project Feasibility / Business Case
- Stage 5: Government Approval (to Proceed) / Procurement Stage
- Stage 6: Successful / Preferred Proponent
- Stage 7: Financial Close / Construction Development Commencement
- Stage 8: Operations Phase

### MY FOLLOWED PROJECTS

<table>
<thead>
<tr>
<th>Project Name</th>
<th>Country</th>
<th>Sector</th>
<th>Type</th>
<th>Completed Stage</th>
<th>Value</th>
<th>Last Updated</th>
</tr>
</thead>
<tbody>
<tr>
<td>WestConnex</td>
<td>Australia</td>
<td>Transport &gt; Road</td>
<td>Greenfield</td>
<td>1</td>
<td>N/A</td>
<td>December 2016</td>
</tr>
<tr>
<td>Penrith Light Rail</td>
<td>Australia</td>
<td>Transport &gt; Rail &gt; Passenger</td>
<td>Greenfield</td>
<td>1</td>
<td>N/A</td>
<td>December 2016</td>
</tr>
</tbody>
</table>

View more...

### MOST RECENTLY UPDATED PROJECTS

<table>
<thead>
<tr>
<th>Project Name</th>
<th>Country</th>
<th>Sector</th>
<th>Type</th>
<th>Completed Stage</th>
<th>Value</th>
<th>Last Updated</th>
</tr>
</thead>
<tbody>
<tr>
<td>Puño Prison</td>
<td>Colombia</td>
<td>Social &gt; Justice &gt; Prisons</td>
<td>Brownfield</td>
<td>2</td>
<td>130 M USD</td>
<td>January 2017</td>
</tr>
<tr>
<td>Bogotá Hospitals</td>
<td>Colombia</td>
<td>Social &gt; Healthcare</td>
<td>Brownfield</td>
<td>2</td>
<td>328 M USD</td>
<td>January 2017</td>
</tr>
<tr>
<td>Urumita &amp; Barrancabermeja Prisons</td>
<td>Colombia</td>
<td>Social &gt; Justice &gt; Prisons</td>
<td>Greenfield</td>
<td>2</td>
<td>230 M USD</td>
<td>January 2017</td>
</tr>
</tbody>
</table>

View more...
Expansion of Line 4 of the Mexico City Subway System (Martin Carrera-Tepexpan)

Region: Americas
State/Region: Distrito Federal
Country: Mexico
Project Location (e.g. major geographic reference): Mexico City

Project Description:
The 24.5 km expansion will connect the municipalities of Ecatepec de Morelos, Acolman, Tezoyuca and Gustavo A. Madero, in the metropolitan area of Mexico City.

PROJECT STAGES
- Stage 1: Initial Government Announcement
- Stage 2: Project Investigation

Estimated Project Value (Local Currency): 24,085.7 M MXN
Preferred Currency (USD): 1,247.6 M USD

In the project contained in national/sub-national infrastructure plan or strategy? Yes

Have any external advisors been appointed yet? Yes
Details of Advisors appointed:

Please outline any studies (for example environmental, engineering etc.) that will be completed prior to a full business case development:
- Technical, economic, legal and environmental feasibility analyses

Opportunity for Private Sector Involvement
- Equity
- Debt - Private Sector
- Debt - Concession
- Construction
- Operations
- Advisors
- Royalties

PROJECT DETAILS
- Sector: Transport > Rail > Passenger
- Greenfield/ Brownfield: Greenfield
- Market Involved or Unsolicited Proposal:
- Estimated Project Value:
  - Local Currency (MXN): 24,085.7 M
  - Preferred Currency (USD): 1,247.6 M

Project Map
- Mexico City

Project Timeline
- Time Elapsed since entry into Pipeline: 04/2016
- Total Time Spent in Current Stage: 6 months

DOCUMENTS & RELEVANT LINKS
- http://presidencia.gob.mx/psa/
Mexican Projects currently on Pipeline

MEXICO

• Water management improvement project in Mexico City
• Construction of 22 water treatment plants and rehabilitation of 7 plants
• Telemetric and data system of the water infrastructure in Mexico City
• Bus rapid transit system of Mexico City, Line 5-Phase 2
• Expansion of the Line A of Mexico City subway system (Chalco-La Paz)
• Mexico City new international airport
• Expansion of the port of Veracruz
• InterCity train Mexico-Toluca/First phase
• Expansion of line 4 of the Mexico City subway system
Who is using the Pipeline?

Worldwide participation by users

- Viewers from 103 Countries
- Approximately 900 separate organisations – most with multiple users
- 70% Private Sector:
  - Equity
  - Debt
  - Construction
  - Operators
  - Advisors/consultants
What projects are already on the Pipeline?

9 Countries

47 Projects

Disclosed value
USD 30bn
Future Development

- Increased number of countries and projects - become truly global
- MDB funded projects need to become an integral part
- Trend and statistical analysis
- Additional features to be driven by feedback from governments and private sector users
Where can you find the next infrastructure project?

A G20 INITIATIVE
Global Infrastructure Hub

www.gihub.org

Project Pipeline

pipeline.gihub.org
Investor Relations and Investment Projects Hub Office

May 2017
SUMMARY

This document was prepared to present the infrastructure Investor Relations and Investment Projects Office and the webpage mexicoprojectshub.gob.mx.

The Investor Relations Office and Investment Projects Hub is part of a built-in and multidisciplinary effort to link investors\* with projects, as well as to encourage better practices within the investment cycle, providing a new solution to Mexico and global infrastructure development.

mexicoprojectshub.gob.mx is a database of investment projects that will help domestic and international investors identify investment opportunities in Mexico by providing advanced visibility of projects to be executed, or that are being operated in diverse sectors.

* Any reference to “investors” in this document considers private and institutional investors, banks, developers and consultants.
INVESTOR RELATIONS AND INVESTMENT PROJECTS HUB OFFICE
Develop investment vehicles that link institutional investors to infrastructure projects

Consolidate a pipeline of infrastructure projects that are attractive to private sector investors

Mexico

In 2015, the Mexican Government launched two new types of vehicles listed in the Mexican Stock Exchange:

**FIBRA E**
Financial vehicle that invests in mature assets in the energy and infrastructure sectors. The funds are used to develop new projects. This investment vehicle is a derivative from the FIBRA’s and the master limited partnerships.

**CERPI**
Financial instruments with characteristics of corporate governance and designed similarly to those of private equity funds, which can invest in any economic sector, and receive funding from domestic and foreign investors.

Areas for Improvement

- There were no consolidated databases (either greenfields or brownfields).
- The information related to financing is limited.
- Technical and institutional difficulties to structure projects, mainly PPPs.
Construction of the projects hub
Background - Concerning Issues

Studies conducted by International Organizations such as the Global Infrastructure Hub (GIH) and the Institute for International Finance (IIF) address concerns and private investors’ needs regarding the quality of the investment pipeline in the global infrastructure sector.

“We would like to determine which projects are real and which are not”

“A data sheet with useful information of the project will foster decision making easier”

“There is little transparency in infrastructure information, and lack of coordination at different government levels regarding project planning”

“It would be useful to have online updates of the project”

“Nowadays, it is very difficult to compare projects, given the fact that every project pipeline contains different information”

Background – Information sources

The Projects Hub is fed by different information sources:

- Transport
- Social Infrastructure
- Water and Environment
- Telecomm
- Real Estate and Tourism
- Hydrocarbons
- Private Organizations
- Companies and Developers
- Official Databases

**SOURCE:** National Infrastructure Program, 2014
mexicoprojectshub.gob.mx will provide investors a project inventory at its different stages:

**Objective**
Link projects with potential domestic and foreign investors

**Advanced visibility**
of sponsored projects by the Government, so investors can take timely investment decisions

**Multi-sectoral information**
a consolidated data base of greenfield and brownfield projects in different sectors

**Simple and functional**
fully bilingual website with updated projects’ relevant information, including an advanced search criteria

---

**Construction of the projects hub**

1. Pre-investment
2. Bidding
3. Execution
4. Operation
Website presentation
mexicoprojectshub.gob.mx
The website was launched on March 2017, offering valuable information in four main sections:

1. **Projects Hub**
2. **Why Mexico?**
3. **How to Invest?**
4. **Knowledge Hub**

Mexico Projects Hub have signed agreements with GIH, FONADIN, IFC, BID, FOMIN as core partners in the project.

Fully bilingual site available in Spanish and English versions.
This powerful database concentrates information from almost 540 infrastructure and energy projects and vehicles updated on a daily basis, divided in:

- **58% NEW PROJECTS**
- **28% PROJECTS IN OPERATION**
- **14% LISTED VEHICLES**

All the information from the database can be downloaded in Excel and PDF formats.

Information can be filtered with a powerful search engine by search criteria and a keyword search.

Section with more than 1,200 links to external official sites to support and complement information.
# Projects Hub

<table>
<thead>
<tr>
<th>Sector</th>
<th>Pre-investment</th>
<th>Bidding</th>
<th>Execution</th>
<th>Operation</th>
<th>Total Projects</th>
<th>Total Vehicles</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transport</td>
<td>23</td>
<td>9</td>
<td>18</td>
<td>149</td>
<td>199</td>
<td>-</td>
</tr>
<tr>
<td>Electricity</td>
<td>78</td>
<td>7</td>
<td>44</td>
<td>-</td>
<td>128</td>
<td>-</td>
</tr>
<tr>
<td>Hydrocarbons</td>
<td>10</td>
<td>41</td>
<td>39</td>
<td>-</td>
<td>50</td>
<td>-</td>
</tr>
<tr>
<td>Social Infrastructure</td>
<td>9</td>
<td>6</td>
<td>1</td>
<td>4</td>
<td>20</td>
<td>-</td>
</tr>
<tr>
<td>Water and Environment</td>
<td>12</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>12</td>
<td>-</td>
</tr>
<tr>
<td>Real Estate and Tourism</td>
<td>4</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>4</td>
<td>-</td>
</tr>
<tr>
<td>Telecom</td>
<td>-</td>
<td>-</td>
<td>1</td>
<td>-</td>
<td>1</td>
<td>-</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>136</strong></td>
<td><strong>63</strong></td>
<td><strong>103</strong></td>
<td><strong>153</strong></td>
<td><strong>455</strong></td>
<td>-</td>
</tr>
</tbody>
</table>

Note: The website includes nine macroprojects that are not considered in the table.

**PROJECTS DATA COME FROM THE FOLLOWING OFFICIAL SOURCES OF INFORMATION**

- SHCP
- SEGOB
- SCT
- SALUD
- SECTOR
- datos.gob.mx
- Compravista
- CNH
- CRE
- CENAGAS
- CONAGUA
- Grupo Aeroportuario
- IMSS
- ISSSTE
- Fondo Nacional de Infraestructura
- PEMEX
- CFE
- Comisión Federal de Electricidad
All projects in the database contain detailed information in a standard format, including:

- DESCRIPTION
- LEGAL AND FINANCE STRUCTURE
- STATUS
- GEOLOCATION
- SPONSOR
- MULTIMEDIA
- REMARKS

In all cases an option to “follow the project” is offered, only asking for an e-mail address for sending the alerts.

There is also a printing option for getting factsheets of each project in PDF format.
The PDF format data sheet offers summary information of the project as well as a QR code that directs the user to the updated digital file in the website.
This section offers valuable information related to the advantages offered by Mexico as an investment destination with updated data, figures, information, interactive tools and graphs in the following subjects:

- Ideal location for business
- Market with great potential and human capital
- Solid and open economy
- Business environment
- Attractive destination for investment in infrastructure
Subsections with information and data updated periodically, including:

45 data series

34 still images

22 interactive charts and images
Section that guides the user in the way in which infrastructure investment projects are carried out in Mexico, offering detailed information on the following topics:

- National planning
- Organizations and processes
- Investment cycles
- General Regulation
- Financing

Particularly the “investment cycle” section is an extremely useful tool that provides information on the institutional arrangement and the processes of the specific investment cycle in each sector, providing links to the websites of the agencies involved in the process.
The subsections offer information updated periodically, including:

- **137** links to official external sites
- **18** interactive charts and images
- **9** still images
- **5** data series
Specialized literature for the development of PPPs, with More than 100 links to documents of interest in various subjects, as well as events related to the sector around the world.

Issues addressed in the “Knowledge Hub”:

- PPP Basics
- Specialized Literature
- Planning Documents
- Contracts
- Legal Framework
- Event

More than 95 documents
This website is open to worldwide users and is a unique and innovating way to present and follow up projects while facilitating information and reducing costs to investors when identifying investment opportunities.

This forces us to keep the platform and information constantly updated, therefore we are working on a 1.1 version in order to make it easier for investors to access information.
Final Remarks

- Considering the budgetary restrictions faced by governments, it is essential to encourage diversity of financing sources and carry out partnerships with the private sector for long-term projects financing.

- Nowadays, the structuring of more effective mechanisms is in progress in order to achieve established objectives. Such effort will be constant and dynamic, therefore requiring the consolidation of an open knowledge and exchange of information network with public and private organizations, domestic or foreign, contributing to improve the investment ecosystem.

- We strongly consider this initiative by Mexico’s Federal Government to be a provider of a new solution to national infrastructure which will attract investors around the world to look at investment opportunities in a different and more efficient way, making it easier for them to identify opportunities in a vast array of sectors throughout Mexico as well as eliminating obstacles that may hinder their interest to invest in Mexico.
Legal and Regulatory Frameworks for PPPs

Ursula Carreño Colorado, Head of Investment Unit, SHCP, Mexico
Bruno Sad, Director of Infrastructure and Logistics, Infrastructure Unit, Ministry of Planning, Brazil
Cristina Holuigue Miranda, Adviser of Economic and Financial Analysis, Ministry of Public Works, Chile
Paola Benavides Chaves, Head of Unit for PPP, Costa Rica
Legal and Regulatory Framework for PPPs
Chilean Experience

Mexico City

Coordination of Public Works Concessions
Ministry of Public Works

May 2017
Main legal regulation for PPP contracts
Legal Framework

Chile has a Concessions Law which has passed with broad approval across all political sectors. The legal framework empowers the Ministry of Public Works to grant under concession every public work under its jurisdiction, and other public organisms, through a mandate agreement.

Law

2. Regulation of the Concessions Law

Besides de law, each contract is ruled by a set of legal instruments:

1. Mandate agreement
2. Bidding terms and its clarifying circulars
3. Technical and economic bids of the successful tenderer
4. Supreme Decree of award
5. Contract modifications
Legal Framework

The following main aspects are regulated in the Concessions Law and its Regulation:

- Private initiative (unsolicited proposals)
- Biding requirements
- Contract modifications and its economic compensations (change or extend projects)
- Dispute resolution mechanism (Arbitral Board and Technical Panel)
- Rights and obligations of the concessionaire
- Pledge of public works concession
Unsolicited Proposals

Main Goal: To promote innovation from private sector, avoiding reckless projects

- Projects are selected and evaluated with the same criteria than public initiative projects
- Projects are tendered in a public bidding process
- Original private proponent has right to a prize in the economic evaluation of his economic offer
- The right for the prize can be transferred
- Requirements:
  - Information to build project profile
  - Acceptance of public authority concerned
  - Alignment with infrastructure public policy
  - Project not been studied by Government
**Private Initiative Flowchart**

**(Unsolicited proposals)**

**PRESENTATION**
- Max 45 days
- P.I. Presentation
- Declaration of public interest
- Evaluation
- Rejected

**PROPOSAL**
- Max 2 years
- Project studies development
- Seriousness guarantee requirement
- Proposal evaluation
- Rejected
  - Applicant owns idea for 3 years

**TENDER**
- Max 1 years
- Call for bids
- Awarded!
Bidding and contracting

Main Goal: To award the project to the most competitive bidder

- Requirements for bidders
  - Technical experience
  - Capital assets required (20% of the investment)

- Competitive and transparent bidding process
  - Non discrimination between local and foreign investors
  - Separated technical and economic proposal
  - Only if the technical proposal is approved, the economic proposal is opened in a public process
  - Project is assigned to the most convenient offer from the state’s perspective

- Contract main regulatory aspects:
  - Special Purpose Vehicle (public balance sheet)
  - Toll definition is generally part of the conditions of the contract and it’s adjusted to the inflation
Dispute resolution mechanism

Main goal: To ensure impartial and agile dispute resolution process

- Binding arbitration process, in sole instance (resolution according to the law and contract)
- Improved mechanism:
  - Arbitral Board: 3 arbitrators for each contract chosen in agreement between concessionaire and the state
  - Technical Panel: provides specialized non binding opinion in economic and technical matters. Permanent for the whole system, composed by 5 members
- Impartial system
  - Arbitrators: members must be chosen from a list prepared by other government agency
  - Members of technical panel are designated by independent agencies
  - Absence of inabilities and notable technical skills are required for both cases
  - Expenses are shared by public and private sector
Contract modifications and its economic compensations

Main Goal: To ensure competition discipline, discouraging reckless proposers

- Restricted conditions on when the concessionaire has right to receive compensations: higher service level or public interest (change or extend projects)
- Economic principle to calculate compensations, seeks to maintain original contract conditions: net present value of marginal project revenues should be zero
- Limits for additional investment to be compensated
  - 15% of investment official budget for additional works ordered by the state, at any stage
  - 25% of investment official budget for additional works during construction stage
  - During operation stage, additional works over US$ 4 million must be tendered by the concessionaire with supervision of the state
Service Level

Main Goal: To ensure adequate service level to users avoiding the incentives to reduce costs

- Contracts must consider service levels based on explicit, measurable, clear and meaningful indicators, with clear goals and tolerances
- Payments are associated with service level accomplishment
- Some indicators are crucial and have no margins of tolerance. They are related with fines or/and early termination of the contract
- As well the concessionaire have to develop, get approved and accomplish maintenance and service plans
## Contract Design

### Risk sharing in construction phase

<table>
<thead>
<tr>
<th>Risk</th>
<th>Distribution</th>
</tr>
</thead>
<tbody>
<tr>
<td>Design and planning</td>
<td>Mostly retained by the state. With pre qualification stages more risk is transferred to the concessionaire</td>
</tr>
<tr>
<td>Environmental</td>
<td>Shared. Depending on the type of project, more or less is retained by the state</td>
</tr>
<tr>
<td>Land expropriation (cost and time frame)</td>
<td>Retained by the state</td>
</tr>
<tr>
<td>Engineering and construction</td>
<td>Mostly transferred to the concessionaire. Some risks are shared: for example, utilities network changes</td>
</tr>
</tbody>
</table>
## Contract Design

### Risk sharing in operation phase

<table>
<thead>
<tr>
<th>Risk</th>
<th>Distribution</th>
</tr>
</thead>
<tbody>
<tr>
<td>Traffic and Income</td>
<td>Mostly shared, through Minimum Income Guarantee or contracts awarded by Least Present Value of Income</td>
</tr>
<tr>
<td>Operation and Maintenance</td>
<td>Service level accomplishment is responsibility of the private party</td>
</tr>
<tr>
<td>Technology</td>
<td>Transferred to the concessionaire</td>
</tr>
<tr>
<td>Force majeure</td>
<td>Transferred to the concessionaire when its possible (for example, earthquakes)</td>
</tr>
<tr>
<td>Financial</td>
<td>Mainly transferred to the concessionaire</td>
</tr>
<tr>
<td></td>
<td>The state provides some guarantees</td>
</tr>
</tbody>
</table>
Information Transparency

• Every document associated to the contract is public. Most of them are available at the website www.concesiones.cl:
  – Bidding terms
  – Technical evaluation qualification
  – Economic offers
  – Awarding documents
  – Contract modifications
  – Service and maintenance plans
  – Operations/traffic reports
Future of PPPs

• Innovations in regulation:
  – Institutional: General Directorate of Concessions
  – Infrastructure Fund
  – Regulation of Unsolicited Proposals

• Main expected outcomes
  – Organization strengthen
  – Pipeline separated from political cycles
LEGAL AND REGULATORY FRAMEWORK FOR PUBLIC PRIVATE PARTNERSHIP PROJECTS IN MEXICO
1. Legal Framework

2. Recent Reforms to PPP Legal Framework

3. PPP Criteria Homologation
1. Public Private Partnership Law
2. Regulations Under the Public Private Partnership Law
3. Guidelines to determine the viability of carrying out a project through a scheme of Public Private Partnership
5. Guidelines for the monitoring of the exercise of investment programs and projects, long-term productive infrastructure projects and projects of PPP of the Federal Public Administration
6. Guidelines for the preparation and presentation to the Report and Ex-post Evaluation of investment programs and projects, long-term productive infrastructure projects and projects of PPP of the Federal Public Administration
The amendments to the PPP Law and its Regulations Under, published in the Official Federation Gazette on April 21, 2016 and February 20, 2017 respectively, had the purpose of widening the processes of preparation and authorization of the projects under this scheme. Its budgetary management; reinforcing transparency measures and interactions with the private sector, as well, define the processes and authorizations that are necessary to structure PPP projects.
1. Feasibility of PPP projects

Before the reform, it was not clear the legal act by which the viability of PPP projects was determined, so that art. 14 of the PPP Law was modified in order to indicate that the PPP Projects will be viable when determined by the agency or entity concerned through the opinion issued by such authorities.
2. Annual Maximum Amount for PPP

At present, the Ministry of Finance (SHCP) should include in the Federal Expenditure Budget (FEB) the estimate of the maximum annual amount for PPP projects with budgetary resources, in order to meet the required payment commitments of new projects that the entities or institutions intend to initiate during the next fiscal year, of those already authorized.

The Regulations Under the Public Private Partnership Law stipulate that the financial authority will estimate the maximum annual amount of programmable expenditure for PPP projects.
3. Authorization of PPP Projects:
The authorization process for PPP projects can be carried out throughout the entire fiscal year, without specific dates. This modification allows the authority to receive PPP Projects throughout the entire fiscal year.

The Regulation under the PPP Law eliminates the deadline for submitting requests for authorization of PPP projects, indicating that for each new PPP projects as well as for changes in the scope of previously authorized projects involving FEB resources, they will be analyzed and, authorized during the fiscal year. Also, there is the alternative that the Federal Executive presents to the Chamber of Deputies new PPP projects, with the presentation of the FEB.
3. Authorization of PPP Projects (Continued)

The Regulation under the PPP Law establishes that the authority must submit to the Commission of Budget and Public Account in the Congress the information related to the PPP projects authorized by the Intersecretarial Commission of Public Expenditure, Financing and Disincorporation (CIGFD).

Finally, the PPP Regulation now allows the different agencies and entities that are carrying out PPP projects to update the PPP payments due to inflation, exchange rate, interest rate, provided that such updating does not exceed a 10%, in real terms, of the total value of the project (amount of the total payments private company) which doesn’t represent a change of scope and only has to be informed to the CIGFD (in case there is a change in the scope of the project, it should be submitted again to the CIGFD and to the Commission of Budget and Public Account)
4. Unsolicited Proposals

The public agencies and entities may publish in the Official Gazette of the Federation and their webpage, an agreement to indicate which project proposals are willing to receive.

• The proposals must be linked with the national objectives established in the official government’s plans and programs. Unsolicited Proposals will only be analyzed when they fulfill the elements included in the PPP law.

• Risk analysis was added as a requirement.

• The Regulation of the PPP Law details the information to be submitted by Unsolicited Proposals, which gives greater clarity to the authorization process of such proposals.
5. Federal Public Budget Funds

It was pointed out that the public agency or entity that intends to carry out projects considered viable with funds from the Federal Budget, must be registered in the Portfolio of Investments and submit, if necessary, the project related to the analysis and authorization of the CIGFD. This reform is confirmed in the Regulations Under the PPP Law.
6. Transparency and Accountability

The viability analysis from the PPP projects, mentioned in the 14th article of the PPP Law, must be published in the authority’s Budgetary Transparency webpage.

Regarding this topic, the Regulation of the PPP Law establishes that the registry for statistical purposes must be open to the public, except for confidential information, in terms of the Federal Law of Transparency and Access to Public Information and of free consultation, for which it will be permanently published in the Transparency page mentioned above with an open data format.
7. Quarterly Reports

All information of the approved PPP projects, as well as those under review, should be included in the quarterly reports that are submitted to the Congress through the financial authority. These quarterly reports should also disclose the Unsolicited Proposals received by the public agencies or entities.
The Federal Government has established a strategy to promote the PPP Projects, with the purpose of promoting these projects to the investing public, guild organizations and the Mexican society, aimed to: 1) ensuring that the bidding processes are carried out in an open manner, competitive, equitable, efficient and transparent, and 2) supervising the development of the projects in their different stages to ensure that the objectives, goals and benefits are achieved.

In an effort of the SHCP to homologate criteria in the matter, it is possible to download the contract models and bidding rules on the following website: http://www.gob.mx/shcp/acciones-y-programas / App-projects
PPP Financing Structure in Mexico

Alfredo Vara Alonso, Director General, National Bank of Public Works and Services, Mexico

Francisco Ibañez Cortina, Senior Partner of Infrastructure and Capital Projects, PwC, Mexico

Nicolas Mariscal Servitje, Director General, Marhnos, Mexico

Ary Naïm, Country Manager, International Finance Corporation, Mexico

Hector Garza Cervera, Partner, Ritch Mueller, Mexico
Cocktail reception

Presentation – Video presentation of the Mexico City New International Airport (NAICM)

*Please proceed to: Capilla de la Emperatriz*