



# PPIAF

## Enabling Infrastructure Investment

### A PPP Screening Tool

#### *PPP Support of the Nile Equatorial Lakes Subsidiary Action Program*

Most countries have ambitious infrastructure development plans that include large pipelines of potential projects. But they also face fiscal constraints and therefore need to be selective. In response, some countries—mainly developed ones—have set up methodologies and tools to screen their project pipelines and determine the appropriate procurement, financing, and implementation mechanisms for each project. These tools typically screen and rank projects at an early stage, assessing their suitability for public-private partnership (PPP) structuring.

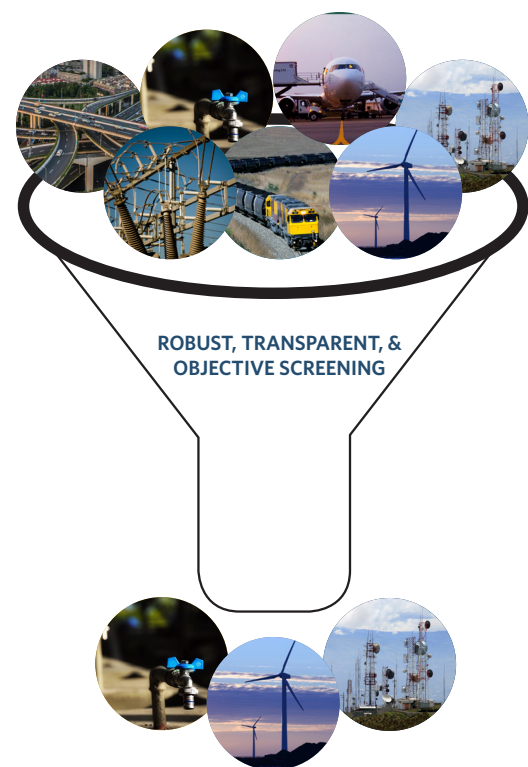
However, the majority of developing countries lack robust screening methodologies for identifying infrastructure projects that could be potentially implemented as PPPs. This was the conclusion of a review led by the World Bank Group in partnership with the Global Infrastructure Hub (GIH) and the Organisation for Economic Co-operation and Development (OECD) which focused on existing PPP screening methodologies implemented across 20 countries and jurisdictions.

This brief provides an overview of a PPP screening tool used for work funded by the Public-Private Infrastructure Advisory Facility (PPIAF) to support the Nile Equatorial Lakes Subsidiary Action Program (NELSAP)'s Coordination Unit of the Nile Basin Initiative in prioritizing and screening water and energy projects for potential PPPs. The screening tool was applied to a portfolio of 15 infrastructure projects in various sectors across eight countries, some of them cross-border. As a result, two first-mover projects were identified that could be developed as PPPs.<sup>1</sup> The tool has also been applied in a variety of other settings, particularly in Africa. It could

also be equally applied in the context of other public entities and sectors.

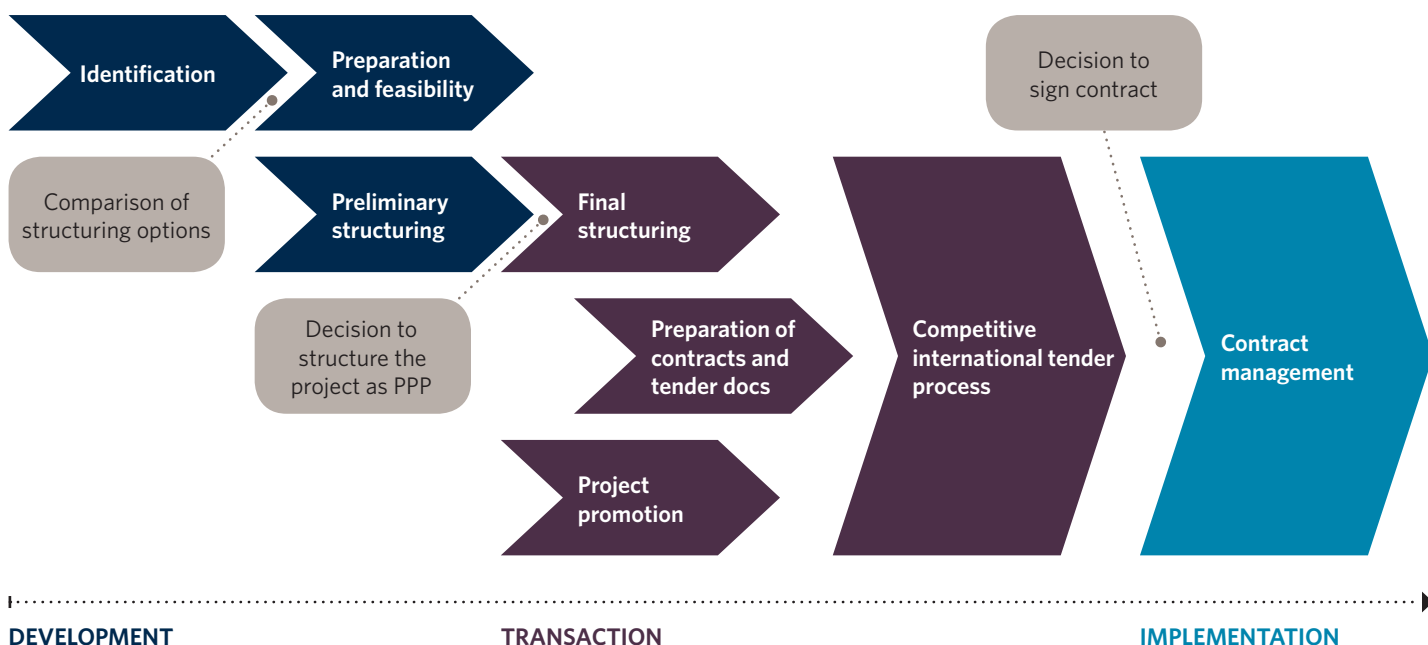
The tool is intended to guide decision makers through what is potentially the first step of a more comprehensive evaluation process to determine the optimal approach for structuring projects. It is built into an Excel spreadsheet and highlights key criteria and questions relevant to assessing the viability of delivering a project using a PPP approach.

To use this tool effectively, agencies should have a basic understanding of the scope, costs, risks and revenue potential of the project under consideration. The tool can be applied at the regional, national, or local levels.



<sup>1</sup> The consulting firm that prepared this brief (Nodalis Conseil) has developed the methodology and recently applied it to NELSAP's portfolio.

**FIGURE 1: PPP PROJECT LIFECYCLE**



## PPPs FOR INFRASTRUCTURE AND SERVICE DELIVERY

A growing number of countries are interested in using PPPs to provide public infrastructure assets and services. Structuring a project under a PPP scheme can offer benefits to the public authority and should generally be considered if it contributes to maximizing value for money, in comparison with other forms of project delivery. Careful economic analysis and risk assessment are critical before embarking on the PPP process.

PPPs have the potential to harness private-sector technology and innovation to provide better public services through improved operational efficiency; incentivize the private sector to deliver projects on time and within budget; allow for budgetary certainty; and supplement limited public-sector capacities to meet growing demand for infrastructure and services.

There is no single, internationally accepted definition of PPPs, and different jurisdictions use different nomenclature to describe similar projects. For the purposes of this brief, we will use the definition provided in the Public-Private Partnerships Reference Guide Version 3 (World Bank, 2017):

*“A public-private partnership (PPP) is a long-term contract between a private party and a government entity, for providing a public asset or service, in which the private party bears significant risk and management responsibility, and remuneration is linked to performance.”*

But not all projects are suitable for a PPP. In some cases, public implementation and management might be the superior delivery mechanism (for example, if the public authority has a good track record of developing similar projects). In a similar vein, PPP project structuring might not be the right choice if a project is unlikely to attract private-sector interest or if the public authority has limited PPP preparation, implementation and operation capacities.

Overall, project delivery via PPPs must be considered in the broad context of sector strategy and public-investment management. PPP options offer maximum benefits when carefully selected and aligned with applicable legislation and strategy.

## SCREENING PROJECTS FOR PPP POTENTIAL

The suitability and value for money of a project needs to be assessed before launching a PPP process. The tool is best applied in the early stages of preparation.

Project screening does not seek to prioritize projects by their deemed importance, but rather highlights those that are the most suitable for PPP implementation. In other words, the results do not offer insights about the importance of projects in absolute terms, and do not prioritize them within the context of regional and national development plans.

Projects may be screened for and by national (e.g., national PPP unit, line ministry, state-owned enterprise), regional, or local entities. Depending on the institution, the pipeline of projects may vary considerably in size, sector, and type; therefore the screening tool might need to be adapted before it can be applied.

## THE PPP SCREENING TOOL

This tool uses a series of criteria that cover the five key dimensions of PPP feasibility and yield a project score (see figure 3 next page).

The user of the screening tool is asked to define criteria associated with each dimension by which the projects are evaluated. Each criterion is then broken down into a set of underlying indicators which are associated with a simple scoring system. The criterion's value is calculated by aggregating the values of its indicators. To determine a dimension's value, the result of each criterion is aggregated. Finally, the values of all five dimensions are aggregated to arrive at the project score.

The project score is calculated for each project and then visualized to demonstrate its PPP suitability in the short-, medium- or long-term (or not at all). The relevance of the results is dependent on the project's stage and the availability of information.

The outcome of a PPP screening exercise is a shortlist of projects that can be considered "first-movers" for PPP development. The user may then assess the results as a whole to determine whether it is worthwhile to conduct a more comprehensive evaluation of PPP delivery options for the project and any additional studies that should be undertaken on other projects that may be suitable candidates in the medium term.

## CALCULATING THE PROJECT SCORE

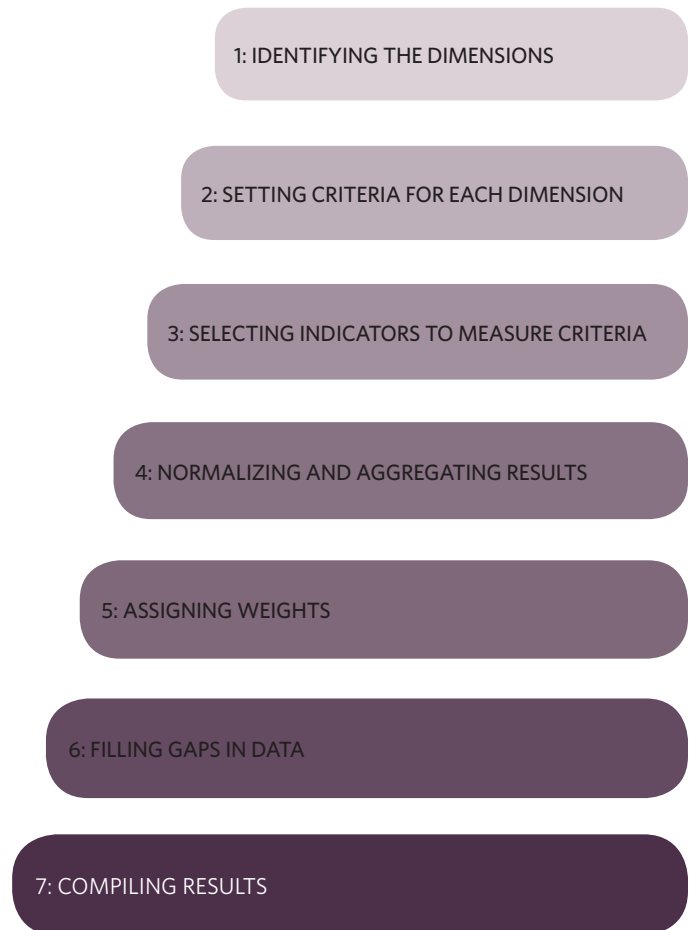
### STEP 1: IDENTIFYING THE DIMENSIONS

Typically, the decision to structure a project as a PPP project covers five key dimensions<sup>1</sup>:

1. **Strategic interest:** This reflects the level of priority that is likely to be given to the project. Strategic interest is perceived at different levels (regional or national, multi-sectoral or sectoral) and indicates whether or not the project is likely to be supported by public authorities.
2. **Technical feasibility:** Whether developed under a PPP scheme or not, the technical feasibility of a project is a key dimension of any prioritization exercise. It usually encompasses environmental, social, and economic feasibility aspects.
3. **Commercial viability:** This captures the likelihood of the project generating sufficient private investor appetite to be developed as a PPP project. Commercial viability considers characteristics such as demand, expected rate of return, legal and regulatory framework, and country/political risk (regardless of the project itself).
4. **Value added of implementing the project as PPP:** This refers to the relevance to the public authority in developing the project as a PPP in terms of risk transfer opportunities at all stages of the project lifecycle

<sup>1</sup> The number of dimensions may vary depending on the nature of the projects in the pipeline.

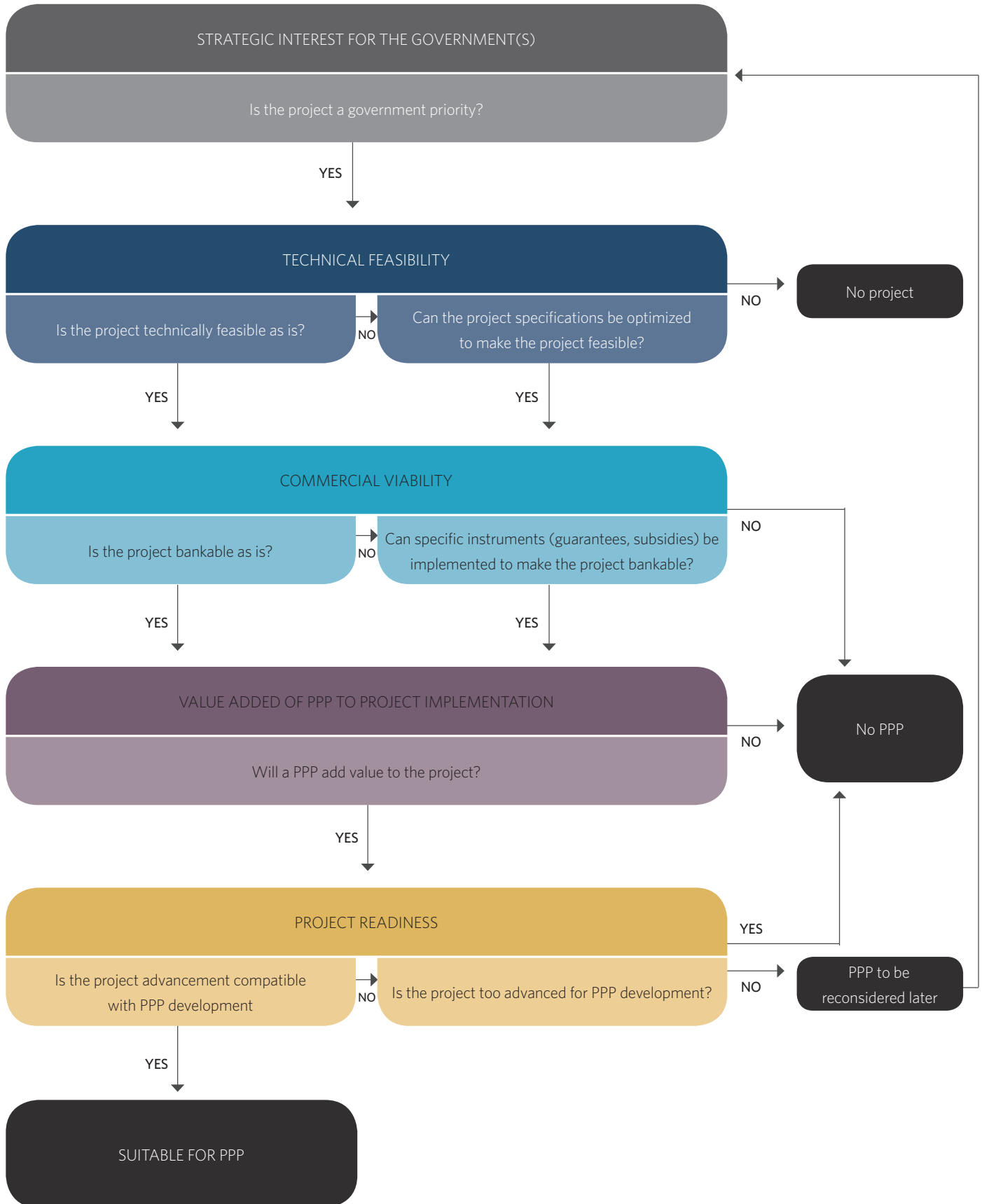
## FIGURE 2: PPP SCREENING TOOL PROCESS



- (development, financing, construction, operation). In other words, who would implement and manage the project more efficiently; a private company, a public entity, or one or several companies selected through traditional public procurement methods?
5. **Project readiness:** By taking into account the project size, complexity, level of development, and public support, this dimension assesses whether the project has reached an appropriate level of development to be considered as a "first-mover" PPP.

These five dimensions are presented as an example of standard considerations for PPP structuring. Depending on the nature of the pipeline of projects, they must be adapted to better serve the objectives pursued by the implementing institution.

FIGURE 3: STANDARD PPP CONSIDERATIONS



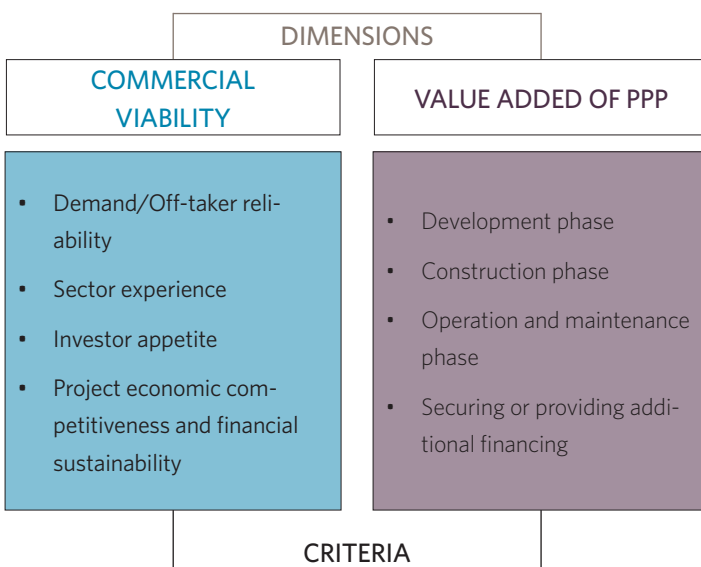
## STEP 2: SETTING THE CRITERIA FOR EACH DIMENSION

The dimensions are broken down into a set of criteria that cover their underlying issues as comprehensively as possible. The criteria are then analyzed and evaluated, yielding a numerical score (see Step 3).

For example, the commercial viability dimension of a project can be assessed by estimating the size of demand, the private sector's appetite for the project, and the project's estimated financial return, and economic competitiveness, each being a separate criterion.

The dimension "value added of implementing a project as a PPP" is generally assessed at every stage of the project's life cycle. This dimension would typically be broken down into criteria that help determine the impact of opting for a PPP vis-à-vis other procurement methods.

**FIGURE 4: EXAMPLE OF CRITERIA FOR TWO DIMENSIONS**



The set of criteria that is chosen to reflect each dimension might vary from one PPP screening exercise to another. The practitioner is expected to adapt the criteria to the characteristics of the pipeline so that national and sector-specific issues are taken into account in the analysis.

## STEP 3: SELECTING INDICATORS FOR MEASURING CRITERIA

Evaluating each criterion requires an appropriate measure. The criteria are therefore associated with a selected number of indicators which are given a numerical score. These values are later aggregated and eventually provide the project score.

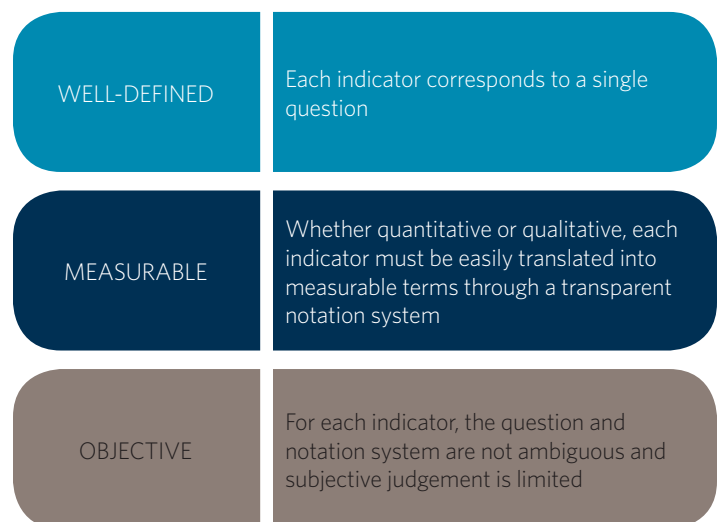
Selected indicators must be well defined, measurable and objective.

Some indicators can be evaluated by answering a "yes/no" question and attaching a value to the answer—for example, one of the indicators to assess a project's complexity might be: "Do examples of similar PPP projects exist in developed countries?" (Yes = one point; No = zero points).

Other indicators might be best evaluated on a scale based on a threshold or benchmark—for example: "What is the investment amount?" (more than \$100 million = two points; between \$50 and \$100 million = one point; less than \$50 million = zero points).

Finally, some indicators might require the use of absolute numbers benchmarked against other projects—for example, the internal rate of return (IRR) indicator might be measured by answering the following question: "How does the project's IRR compare to the highest IRR of the projects in the pipeline?" The project with the highest IRR is the benchmark and receives one point. The score given to any other project is equal to the project's IRR divided by the highest IRR. In this example, if the project with the highest IRR in the pipeline has an IRR of 15 percent, it would receive one point. Another project in the pipeline with an IRR of 10 percent would receive  $10/15 = 0.67$  points.

**FIGURE 5: GUIDELINES FOR DEFINING INDICATORS**



## STEP 4: NORMALIZING AND AGGREGATING THE RESULTS

Once each indicator has been associated with a value (for example, "Do examples of similar PPP projects exist in developed countries?" Value: one point, because similar projects exist in developed countries), the criteria score can be calculated by adding up the values of each of its indicators. The maximum value of each criterion will differ depending on the number of indicators and their individual scoring systems.

To create comparability between these values, they need to be normalized to a single measurement unit (for example, score out of one). Extreme values should be considered with caution because they may influence the results. While there are many normalization methods, this tool recommends dividing the results by the maximum achievable value for the criteria.

**EXAMPLE:**

A project’s economic competitiveness (criterion) is measured by investment amount (indicator #1) and IRR (indicator #2). The maximum possible value of the criterion is three points: If the investment amount is \$100 million or more, the indicator gets two points; if the project has the highest IRR of all projects in the pipeline, it gets one point.

To normalize this criterion’s score (and obtain a value out of one), its value must be divided by three. This way, the values of each criteria become comparable, regardless of their underlying indicators and notation systems.

Next, the values for each criterion are aggregated in order to arrive at one value for each of the five dimensions. The values for each dimension are then aggregated to yield an overall project score.

Depending on the nature of the criteria or dimensions, this tool recommends the use of linear or geometric methods. In other words, a “low” value in a criterion/dimension may be offset by a “high” value in other criteria/dimensions, depending on which aggregation method is applied (see Annex 1).

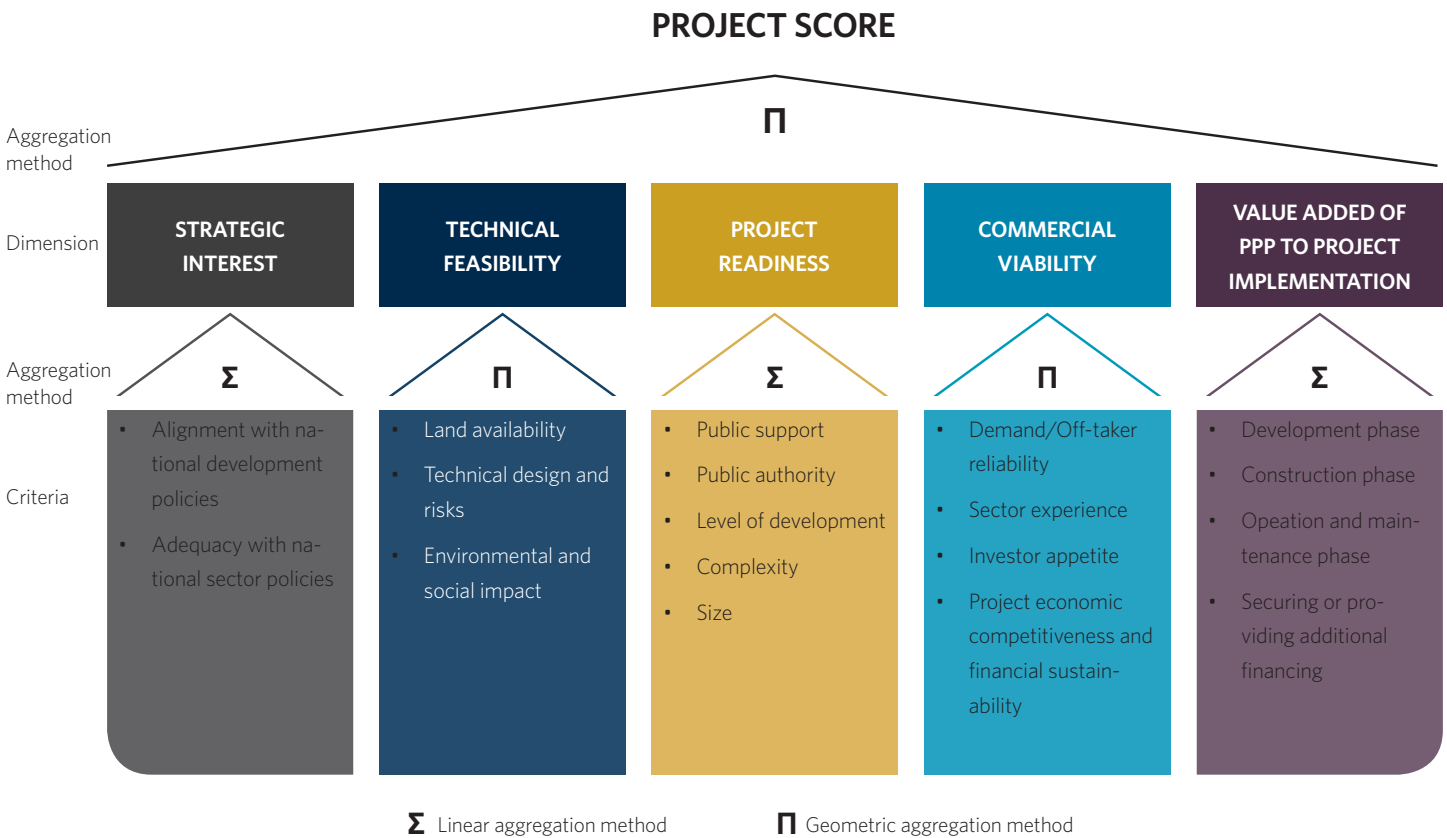
How does the user determine the right aggregation method for each criterion and dimension? If a low score on a particular criterion shouldn’t be compensated for by high scores on other criteria, geometric aggregation should be used. The low score is then strongly reflected in the overall project score. Conversely, if a low score on a particular criterion should be compensated for by high scores on other criteria, the preferred aggregation method is the linear one. This approach also applies to the aggregation of dimension values.

For example, given the importance that technical feasibility and commercial viability should have on the overall project score, these dimensions are generally good candidates for geometric aggregation. Indeed, if a project is not technically feasible or commercially viable, it is not suitable for PPP development, no matter how well it scores on other dimensions.

Aggregation is used at every level of the analysis. Criteria are aggregated into categories, which are then aggregated into the overall project score.

Normalizing values avoids the issue of hidden weights between criteria. Indeed, for the sake of illustration, let us consider that the commercial viability dimension consists of two criteria: the project’s economic competitiveness (criterion #1) and investor appetite (criterion #2). If the maximum number of points for criterion #1 is three, and the maximum points for criterion #2 is six, then without normalization, criterion #2 would intrinsically weigh twice the value of criterion #1 in the commercial viability dimension.

**FIGURE 6: OVERVIEW OF THE LEVELS OF ANALYSIS**



## STEP 5: ASSIGNING WEIGHTS

The screening tool contains no underlying algorithm that calculates an answer based on values calculated for each criterion. Rather, it is up to the user to weight the priority level of each dimension and criterion. Priority levels may differ widely among projects and locations. The weights must reflect the relative importance of each dimension and criterion, based on policy priorities and standard PPP-screening practices. Weights should add up to 100 percent.

Different approaches exist to determine appropriate weights. This tool uses the budget-allocation process, meaning that the user, who is knowledgeable about the relevant project sectors, allocates a “budget” of 100 points among the categories (dimensions or criteria). More important categories are given more points.

**FIGURE 7: EXAMPLES OF WEIGHTING AT THE DIMENSION LEVEL**

Dimensions	Weights
Strategic interest	5%
Value added	25%
Commercial viability	30%
Project readiness	15%
Technical feasibility	25%
<b>Total</b>	<b>100%</b>

Weights may have a significant effect on the overall ranking process and should be chosen carefully. They are value judgments that reflect expert opinion (best practices), policy priorities or theoretical factors. They are easily adjusted from one screening exercise to the other, depending on the relative importance that is given to a category compared to another, and on the allocation method that is chosen.

At the dimension level, commercial viability, technical feasibility and the value addition of the PPP are typically allocated the highest weights, due to their importance in deciding whether a project is a priority for PPP structuring.

## STEP 6: DEALING WITH MISSING DATA

To ensure the comprehensiveness of the dataset, it is critical to define a method for imputing missing information. The objective is to limit the influence of missing information on the overall screening results. Indeed, the information available is likely to differ substantially from one project to another, depending, among other factors, on the project’s stage of development.

When information is not available to score a given indicator, data can be imputed by applying one of the following methods:

- Use the mean of the values for the other projects for the given indicator;
- Use the median of the values for the other projects for the given indicator;

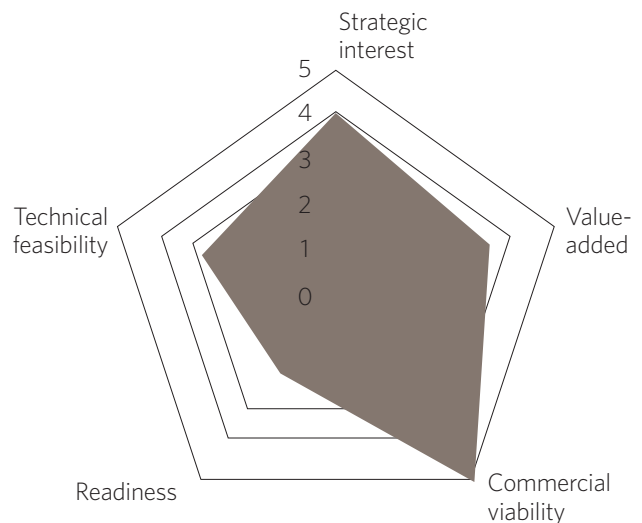
- Use the value that is predicted by regression calculations on other projects for the given indicator (the missing value is used as the dependent factor, and regressors are existing values on the same indicator; they are expected to be correlated with the missing value); or
- Explicitly disadvantage projects with little information available by giving a zero score for missing data (this method could be used if the screening results are expected to prioritize projects that are at the feasibility stage).

Choosing the appropriate method to deal with missing information is a very important step in the screening process. The method selected to impute missing data should be based on the pipeline’s characteristics and the screening authority’s objectives. Using the mean of the values is generally considered to be the simplest and most neutral approach to dealing with missing information.

## STEP 7: COMPILING RESULTS

By applying the approach outlined above, the user calculates a project score for each project in the pipeline. This project score reflects the project’s level of suitability for PPP development, based on the information available.

**FIGURE 8: EXAMPLE OF PROJECT RADAR GRAPH**



The screening results highlight the strengths and weaknesses of each project at the dimension and criteria levels. The results can be presented as radar graphs, as shown in figure 8.

## MEASURING THE QUALITY OF INFORMATION

The approach used to deal with missing information (described in Step 6) allows for projects to be scored regardless of the amount of information available. The reliability of the screening results, however, depends on the quantity and quality of the information that supports project scor-

ing. In other words, the PPP screening results are more reliable if most indicators are scored with existing information, and even more so if the existing information comes from a feasibility study rather than a concept note (which contains information deemed to be less reliable).

The reliability of results can therefore be assessed by measuring the level of information available in absolute terms (quantity of information) and in relative terms (quality of information).

To address this issue, the screening exercise can be taken a step further by estimating the reliability of information, given the project's development stage.

## MEASURING INFORMATION QUANTITY

The general level of information available (GIA) for each project is calculated by dividing the number of indicators that can be scored with available information (i.e., without applying the missing data method) by the total number of indicators in the composite indicator. For a given project, the GIA considers both project-specific information and national or sectoral information. Project-specific information is usually found in project documents (e.g., concept notes, pre-feasibility studies, feasibility studies) and is used to score the indicators related to technical and commercial feasibility. National or sectoral information comes from other sources (e.g., national strategy, laws and regulations, public stakeholders' insights) and is used to score indicators that are not specifically related to the project (e.g., indicators related to strategic interest or the PPP national framework).

### EXAMPLE 2A:

Let us consider three projects:

- Project #1 is at the concept stage, with no project documents available, and 20 out of 100 indicators were scored with available information;
- Project #2 is at the concept stage, with a concept note available, and 50 out of 100 indicators were scored with available information; and
- Project #3 is at the feasibility stage, with a feasibility study available, and 80 out of 100 indicators were scored with available information.

Project #1 has the lowest GIA (20 percent or 20/100). Project #2 and Project #3 have GIAs of 50 percent (50/100) and 80 percent (80/100), respectively.

As we see in the example above, the GIA measures the overall quantity of data collected. The GIA does not highlight missing project-specific information. To overcome this limitation, the project-specific information available (PIA) is calculated by considering only the information available for scoring project-specific indicators (i.e., without imputing missing data). Project-specific indicators are those related to technical feasibility and project economic competitiveness and financial sustainability. In

practice, the PIA is calculated by dividing the number of project-specific indicators scored with available information, by the total number of project-specific indicators.

## MEASURING INFORMATION QUALITY

### EXAMPLE 2B:

In the prior example, let us assume that 50 of the indicators used in the scoring methodology are project-specific, and:

- For Project #1, two of the 20 indicators scored with available information are project-specific indicators;
- For Project #2, 40 out of 50 indicators scored with available information are project-specific indicators; and
- For Project #3, 50 out of 80 indicators scored with available information are project-specific indicators.

The PIA is four percent for Project #1, 80 percent for Project #2, and 100 percent for Project #3. This suggests that the concept note used to score Project #2 contained a substantial amount of project-specific information. It may indeed have included preliminary economic and financial estimations, as well as some information on the project's possible technical characteristics.

As shown, the PIA provides a measure of the availability of project-specific information and is useful for comparing projects with the same level of development. However, the PIA does not provide insights about the reliability of existing data—a technical indicator determined at the concept level is less reliable than the same indicator calculated during a feasibility study.

To identify first movers in a pipeline of projects, it is important to assess the quality of the information available or the project-specific information reliability (PIR).

**TABLE 1: EXAMPLE OF CORRESPONDENCE TABLE FOR RELIABILITY OF INFORMATION**

Project stage	Expected reliability of information
Preliminary: Idea without concept note or unsolicited proposal	0.1
Preliminary: Idea with concept or unsolicited proposal	0.3
Pre-feasibility study	0.5
Development: Feasibility studies underway (draft)	0.8
Development: Feasibility studies available, with clear recommendations to develop under PPP scheme	1
Development: Feasibility studies available, with clear recommendation to exclude PPP option	1
Transaction phase	1
Construction or implementation phase	1
Not determined	0.5



To illustrate this approach, let us go back to the three projects presented above.

**EXAMPLE 2C:**

The PIR for Project #1 is calculated by multiplying its PIA (four percent) by 0.1 (because the project is at the concept stage, with no information available). Project #1's PIR is therefore 0.4 percent. For Project #2, the PIA is 80 percent, which when multiplied by 0.3 results in a PIR of 24 percent. Project #3's PIR is 100 percent: PIA of 100 percent multiplied by one (if the existing feasibility recommends PPP structuring). As we see, by taking into account the expected reliability of information, the PIR automatically advantages first-mover projects, i.e. those that are at the optimal stage of advancement to be developed as PPPs. Conversely, a lower PIR is calculated for projects that are less advanced, thus highlighting the need for further preparation.

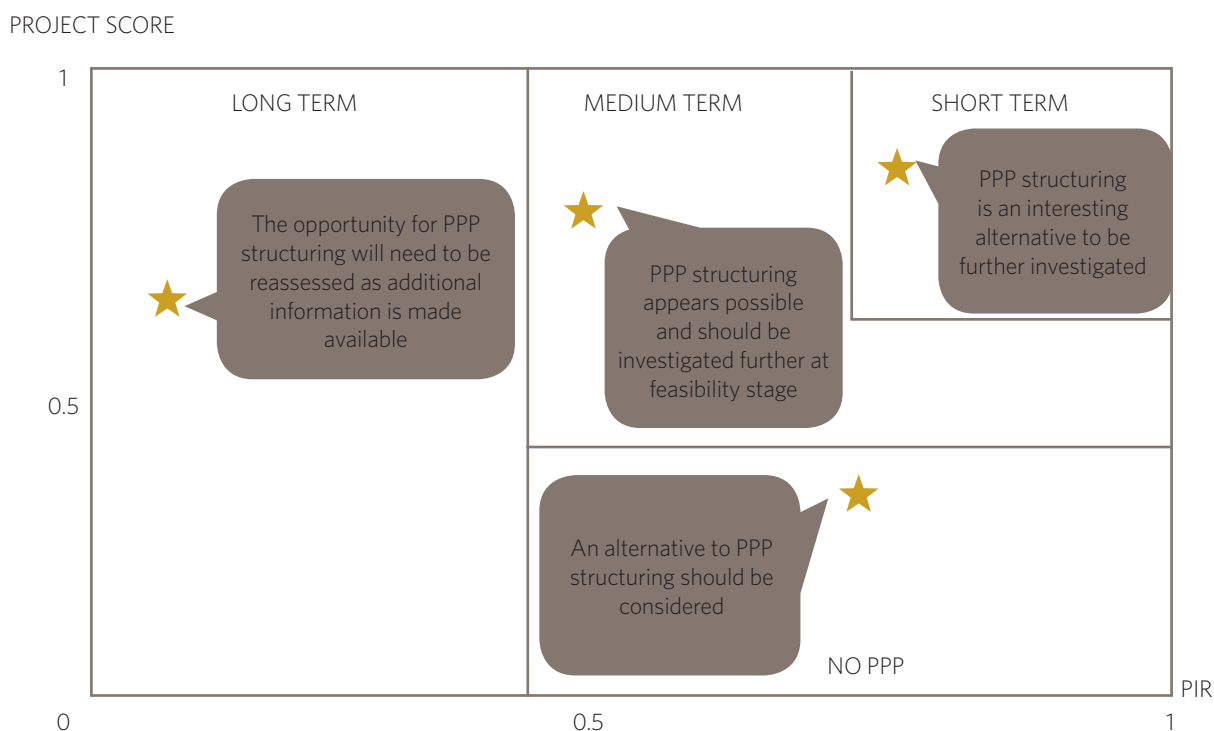
- Short-term projects: Good candidates for PPPs (“first-movers”) are projects with a high project score and high PIR;
- Medium-term projects: Possible candidates for PPPs are projects with an average PIR and an average or high project score;
- Long-term projects: Possible candidates for PPPs are projects with a low PIR (for projects that fall into this category, the opportunity for PPP structuring will need to be reassessed as additional information is made available, because their project scores are expected to change as new studies are prepared); and
- Unlikely candidates for PPPs: Projects with a low project score and high PIR (their score is based on substantial information that does not encourage PPP development, therefore an alternative type of structuring should be considered for them).

Evaluating a project’s PPP suitability is a dynamic process (figure 10). A project may be reconsidered for PPP structuring as new information is produced, or as changes arise in the local environment. A project may shift from one category to another, reflecting either greater readiness, PPP suitability, or changes in project environment or specifications that negatively affect a project’s suitability for being structured as a PPP. Figure 9 illustrates this approach, which captures both a project’s PPP suitability through the project score and PPP readiness through the PIR.

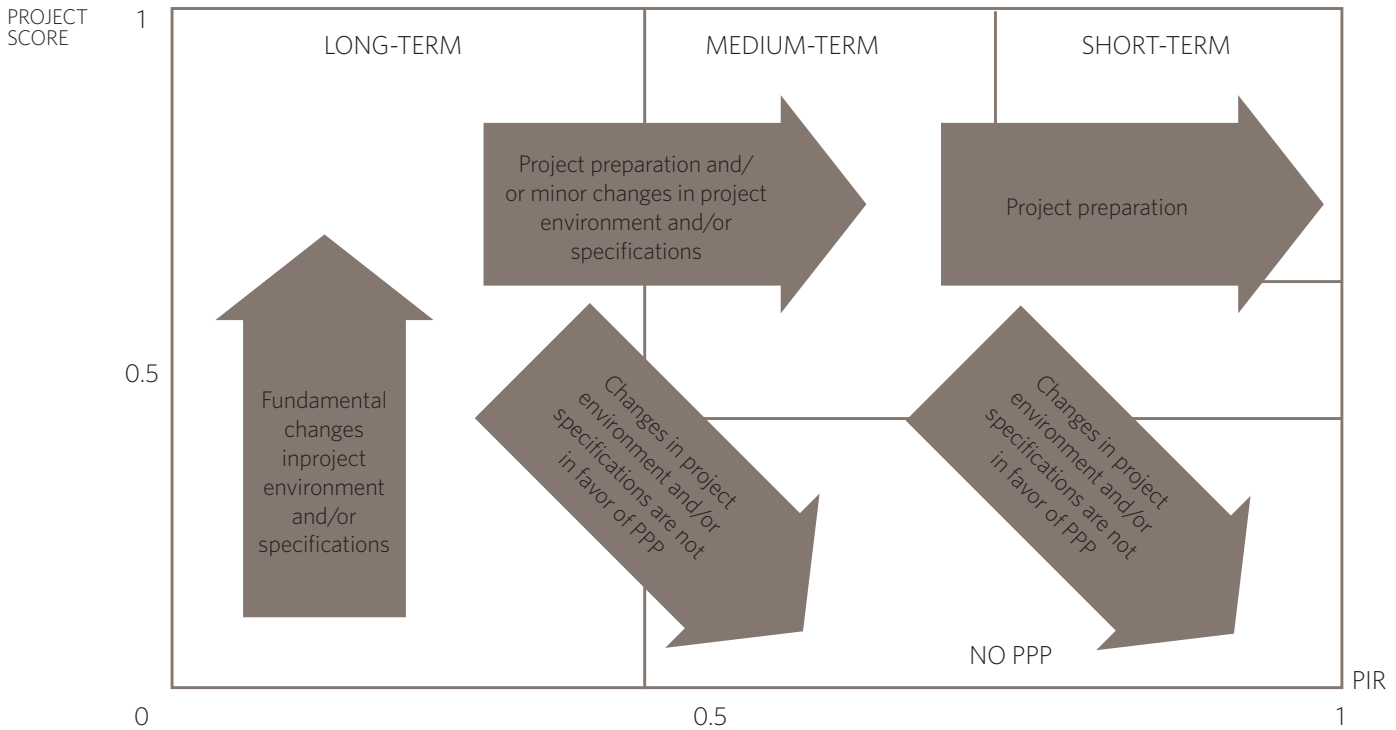
**READING THE RESULTS**

The project score and the PIR can be portrayed in two dimensions, reflecting the level of suitability of the project for a PPP (project score) and the readiness of the project for PPP (PIR). Provided that thresholds are predetermined, the projects can be classified into categories, such as (figure 9):

**FIGURE 9: EXAMPLE OF PPP CATEGORIZATION**



**FIGURE 10: THE DYNAMIC PROCESS OF PPP PREPARATION**



**OTHER ISSUES**

**IMPORTANCE OF TRANSPARENCY**

Transparency on the chosen methodology is essential to ensuring that it is adopted by all stakeholders and to avoid challenging of the results later. To establish a transparent process and limit the impact of subjectivity, PPP screening must be approached as an analytical exercise, where each step of the methodology is predefined independently of any previous project assessment. Outlining the critical assumptions beforehand is particularly important for steps 2 (selecting criteria) to 6 (choosing weights), because these are the steps where there is leeway for practitioners to adjust the PPP screening tool.

**DEALING WITH A LARGE PROJECT PIPELINE**

This screening tool can be applied to a pipeline of 10 to 30 projects. If the number of projects under review is larger, a preliminary screening step is needed to narrow down the portfolio. The pre-screening phase could, for instance, apply a “pass or fail” filter. Each project is looked at through the prism of simple criteria, in the form of yes/no questions. Pre-screening questions are defined to make it possible to distinguish potential PPP projects from other projects. If one or more of the responses to the “pass or fail” questions is negative (fail), the project is not included in the shortlist of projects and will not undergo full PPP screening. The objective of the pre-screening phase is to narrow down the pipeline to a limited number of projects that fulfil minimum conditions for full screening.

**IMPORTANCE OF DATA COLLECTION**

The availability of general and specific project documentation is a key success factor for PPP screening. As we saw, the relevance of screening results is intrinsically linked to the quality and quantity of information available. The availability and reliability of project-specific information (measured by the PIR) puts the screening results into perspective and draws out first-mover PPP projects. To maximize the usefulness of the screening tool, significant effort should be made to collect all data available on the pipeline of projects. These may include:

- Concept notes;
- Existing studies (such as technical, economic, institutional and financial studies; cost benefit analyses; environmental and social-impact assessments) at the pre-feasibility or feasibility levels;
- Private-sector marketing studies (if any); and
- Documentation surrounding preliminary arrangements and agreements.

In addition to the above-listed information, project screening is based on national and regional strategy documents, which can include:

- Legal and institutional frameworks for PPPs (PPP laws and regulations, PPP strategy, PPP guidelines);
- Sector policy statements, laws, decrees and regulations;
- Strategic-investment planning documents; and
- Studies and reports developed by international financial Institutions.

Before undertaking any PPP screening exercise, it is critical to assess the availability and quality of information. PPP screening is in fact a time-consuming exercise, the benefits of which must be measured against the costs.

## CONCLUSION

Evaluating a project's PPP suitability is a dynamic process. The main objective of the PPP screening approach is to support decision makers in streamlining a pipeline of potential PPP projects and to identify "first movers" among them.

To deliver reliable results, the screening tool must be robust and easy to use. It is essential that practitioners be involved in the discussions surrounding the screening approach, so they can build a solid understanding

of underlying objectives and challenges. They must also be very familiar with the PPP screening tool's hypothesis and methodology. Indeed, practitioners must be in a position to regularly apply the tool to update the pipeline and identify first-mover projects. By making the PPP screening a continuous process, resources can be efficiently allocated to push forward projects that are ready to be developed as PPPs. Conversely, projects that do not meet the requirements for PPP development can be left out of the PPP pipeline and given earlier consideration for other forms of development (e.g., public procurement). The PPP screening methodology provides no indication whatsoever about the level of priority that is to be given to the projects in absolute terms. Such strategic decisions must be taken at a higher level and should not be influenced by the PPP screening tool, which assesses the appropriateness to develop projects as PPPs.

## ANNEX I: AGGREGATION METHODS

### LINEAR AGGREGATION METHOD

Linear aggregation is the most common approach to aggregation. It reflects the summation of weighted and normalized individual indicators.

The linear approach uses the following formula:

$$\sum_{x=1}^n w_c C_x$$

In practice, linear aggregation allows full compensability. A low score on one or several indicator(s) can be compensated for by high scores on other indicators. This feature may not always be desirable.

### GEOMETRIC AGGREGATION METHOD

The geometric approach means that the indicators that make up the composite indicator are individually of a critical nature.

The formula is:

$$\prod_{x=1}^n C_x^{w_c}$$

The geometric aggregation method means that a very poor score on one indicator leads to a low composite score, even though the scores on other indicators may be high.

$x$	represents the criterion
$n$	represents the number of criteria that are considered in the building of the composite indicator
$C_x$	represents the normalized value of criterion $x$ 's indicator
$w_c$	is the weight given to criteria $c$



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**ENABLING  
INFRASTRUCTURE  
INVESTMENT**

PPIAF is a multi-donor trust fund that provides technical assistance to governments in developing countries to develop enabling environments and to facilitate private investment in infrastructure. Our aim is to build transformational partnerships to enable us to create a greater impact in achieving our goal.