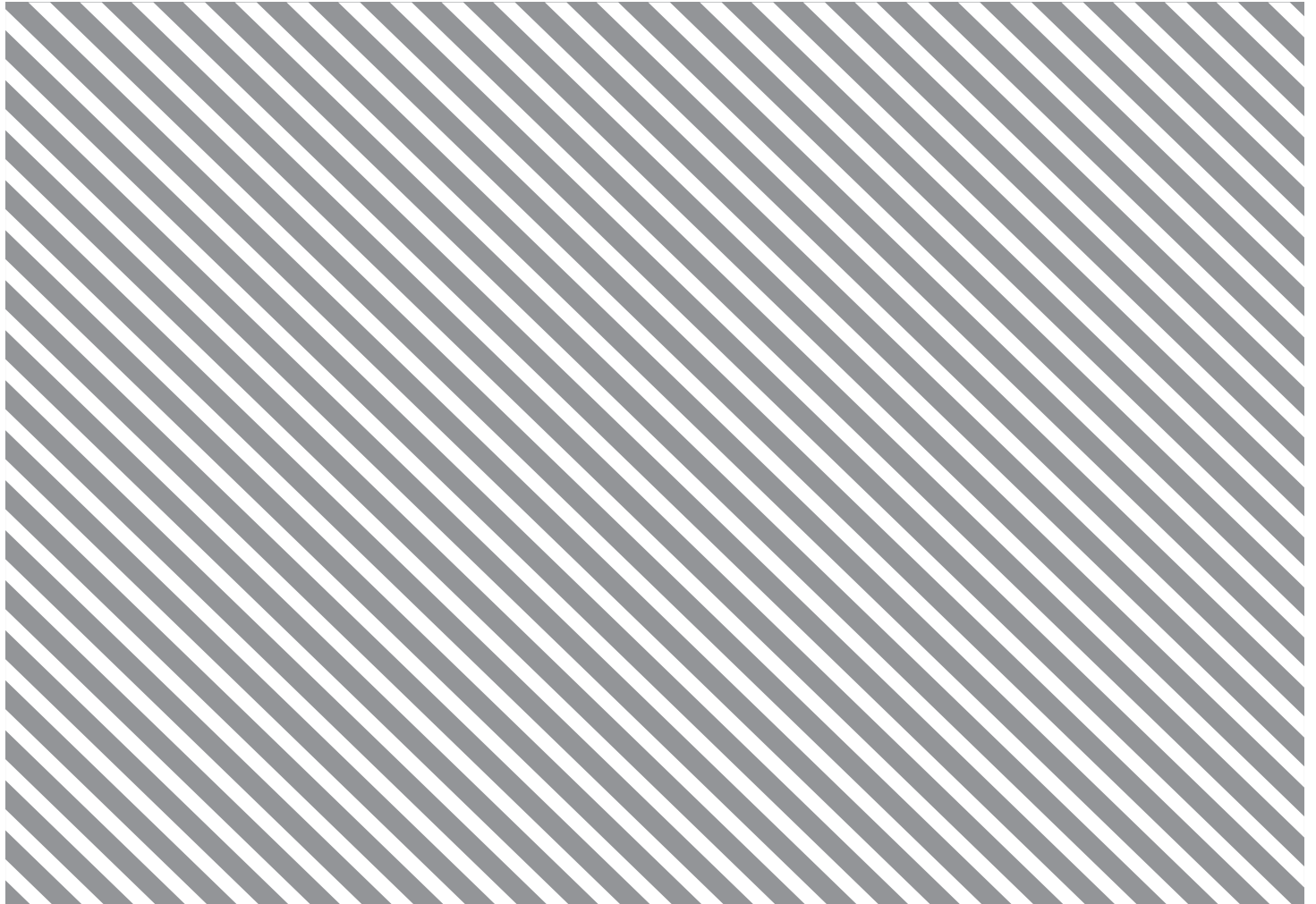


Community Paper

Bridging the Infrastructure Gap: Tools for Creating Investable Infrastructure Project Pipelines

November 2019



World Economic Forum
91-93 route de la Capite
CH-1223 Cologny/Geneva
Switzerland
Tel.: +41 (0)22 869 1212
Fax: +41 (0)22 786 2744
Email: contact@weforum.org
www.weforum.org

© 2019 World Economic Forum. All rights reserved. No part of this publication may be reproduced or transmitted in any form or by any means, including photocopying and recording, or by any information storage and retrieval system.

Contents

Executive summary	4
Introduction	5
Today's toolbox: Select examples of existing tools	7
The World Bank InfraSAP and the Global Infrastructure Hub project preparation tool	7
The UKIPA's Five-Case Model and Colombia's 4G roads programme	10
European PPP Expertise Centre (EPEC)'s PPP Project Preparation Status Tool	13
Linking the chain: A new tool for a more complete view	16
The World Economic Forum High-Level Decision-Making Tool	16
World Economic Forum High-Level Tool: Pakistan power-sector case study	21
Appendix	24
Mapping the landscape	24
Other tools and tool stocktakes consulted for this report	25
Contributors	26
Endnotes	27

Executive summary

When the Global Future Council (GFC) on Infrastructure convened in November 2018, the multistakeholder, cross-sectoral group came prepared to address a perennial problem: the lack of investable infrastructure project pipelines. Additionally, within this overall issue, the council sought to explore the role of private financing in infrastructure projects.

The council focused its attention on the various tools available from public, private and multilateral organizations to help decision-makers guide the procurement and development of infrastructure projects. During this initial mapping and the discussions that followed, the group found two themes:

- While many of these tools were designed by prominent institutions, there is a lack of awareness of them among the decision-makers who are meant to use them.
- There is a dearth of options for tools meant for high-level decision-makers.

From these deliberations came the ideas behind the guidebook contained here. This guidebook is meant as a starting point in addressing the issues identified. It does this in two ways:

- First, by providing detailed analysis of a select number of tools to display their utility via walkthroughs and/or application to case studies. This is intended to publicize and amplify the fine work already being done by a number of organizations, and maps some of the current tools in the infrastructure project preparation environment to show where each tool can provide the most value.
- Second, by presenting a new, open-source tool framework designed by the GFC. This tool framework is meant to be ideologically neutral, high-level and complementary and it is geared towards upstream decision-makers to help them decide at an early stage whether or not a project should be fully publicly procured or would be better as a public-private partnership. Additionally, this guidebook provides a case study to illustrate the tool's utility.

By mapping and highlighting some of the existing tools, and creating a complementary tool to make the landscape more complete, the council hopes to improve infrastructure project pipelines around the world, and the ability of decision-makers to fund them. In this way the council hopes to do its part in helping to create a more inclusively prosperous world with high-quality, cost-effective infrastructure.

Introduction

Infrastructure's global gap

It is no secret that the world faces a daunting challenge in delivering the critically needed infrastructure required to provide economic growth and societal development for a growing global population. The Global Infrastructure Hub predicts that, by 2040, there will be an annual gap of \$800 billion between what is being invested and what needs to be invested to deliver the adequate amount of global infrastructure in line with the Sustainable Development Goals (SDGs).¹ The causes of this gap are many, from inadequate financing and a shortage of technical skills to the underuse of innovative technologies and a lack of political will.

The private-sector role

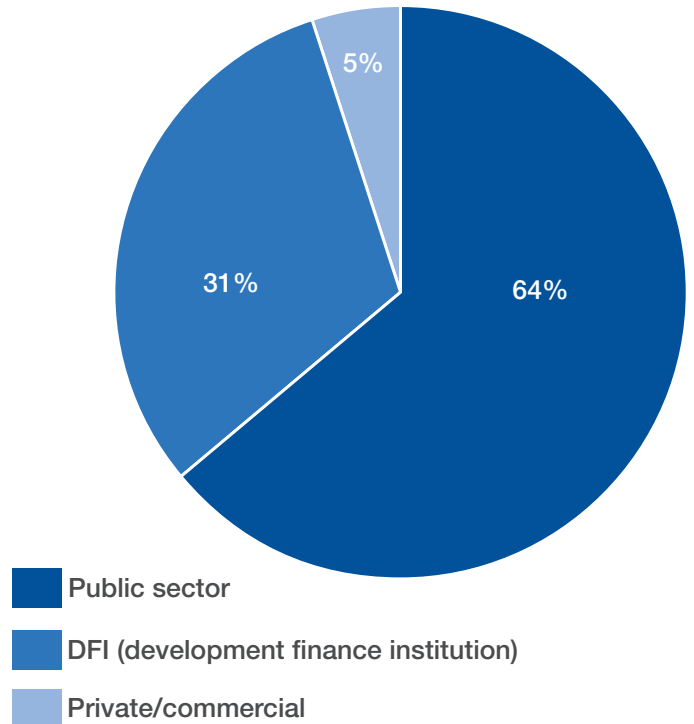
A holistic approach to infrastructure planning considers the private-sector potential to introduce efficiency into service delivery and explores diverse forms of financing – promoting the judicious use of scarce public and concessional resources to bring in commercial capital and minimize public debt while delivering sustainable and affordable services. In doing so, all financing options are considered with the opportunity cost of capital in mind, recognizing that only consumers and taxpayers fund infrastructure.

Infrastructure development is an integral part of the global sustainable-development agenda and a priority for the national strategies of most countries. Financing the SDGs agenda in low-income and developing countries would require additional spending of \$0.5 trillion by 2030, half of which would be used on physical infrastructure alone.² However, this scale of upfront financing is well beyond the public funds of many, if not all, of these the countries' governments – due to tight fiscal balances, rising debt levels and few alternative financing options. Similar arguments apply to advanced and emerging economies. Therefore, attention has increasingly been shifted towards private-sector financing for infrastructure development to help fill this sizeable financing gap.

However, the extent to which private capital should be used in public infrastructure development, the type of projects it should support, and the terms and conditions that should be applied have been widely debated since the revamping of public-private partnerships in the 1980s.³ High-profile project failures and public-private partnership (PPP) programme scandals have called into question the wisdom and utility of trying to attract private financing to infrastructure development. Often these project failures are due to poor structuring and mismatched expectations resulting from a variety of factors. Continued high-profile failures risk turning the public off completely from using private capital in cases where it is needed, exacerbating the struggle to provide infrastructure. Private finance in the infrastructure sector concentrates in specific sectors and countries (less in urban development and low-income

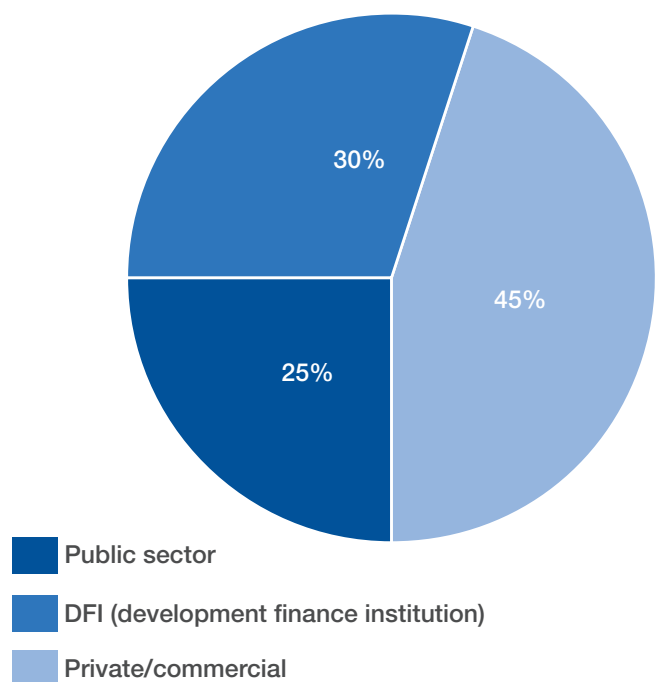
countries) and tends to be procyclical.⁴ Unless a better process is created, the promise of private-sector solutions to public infrastructure challenges will remain unfulfilled.

Figure 1: Sources of financing for SOE (state-owned enterprise)/public investment (SPI), 2017



Source: Provided to the World Economic Forum by the World Bank Group

Figure 2: Sources of financing for PPI investment, 2017



Source: Provided to the World Economic Forum by the World Bank Group

A full toolbox?

Part of establishing this better process is creating and using the right tools to prepare and develop projects. There is no shortage of available tools and instruments in infrastructure development that target a wide array of users and themes. Despite this, there is a feeling among stakeholders that something is missing. The decision between public and private financing from a policy perspective (rather than on a technical level) has very limited analytical underpinning and evidence.⁵ Too many of the available tools are focused on the project level (and often only on parts of it), rather than taking a programmatic view of the infrastructure development portfolio. Additionally, they are often meant for government officials who are making very technical decisions, rather than those at senior and political levels. Also, they are specific to a sector or they are high-level frameworks that are not as relevant to individual decision-makers. Furthermore, many of the tools available now either include a bias towards fully public procurement processes or push the user towards a PPP without adequate consideration of alternatives (or are offered by the financiers themselves).

A new focus to solve old problems

In recognition of these gaps, the GFC has articulated the need for a new tool to make the chain of decision-making around infrastructure financing and development more complete: the World Economic Forum High-Level Decision-Making Tool (World Economic Forum High-Level Tool). The initial open-source framework of this tool is presented in the final section of this paper and focuses on assisting higher-level officials with deciding on the amount of private-sector involvement at an earlier stage. Moreover, this tool will aim to be ideologically neutral and will include a visual representation of the status and significance of the main risk-based parameters underpinning the choice of a procurement method for new infrastructure, either public procurement (government-funded) or PPP procurement (private sector-funded). It is also meant to be used in concert with other tools, some of which are identified here, in a complementary fashion.

Without biasing the method of procurement *ex ante*, this guide seeks to address the constraints on the development of sustainable infrastructure investments, including:

- The need to undertake project identification and prioritization in the context of sector planning, demand and affordability analysis, and public-investment management systems that consider the risks and liabilities, real and contingent, associated with each investment
- The need to identify and prioritize regulatory, market structure, pricing and institutional reforms that remove binding constraints on the greater use of commercial financing for infrastructure, while addressing the efficiency of delivery and expenditure, from project design through transaction processes to contract supervision
- The importance of systematically assessing financing and delivery options when preparing projects, and prioritizing project structures and financing solutions that bring in commercial capital.

By acknowledging and amplifying some of the great existing work in the field, and adding a complementary tool to complete the process, the GFC hopes that this work will provide the assistance needed to complete the chain of project preparation tools, create better-structured infrastructure-development programmes and project pipelines, and help close the global infrastructure gap.

Today's toolbox: Select examples of existing tools

The World Bank InfraSAP and the Global Infrastructure Hub project preparation tool

The number of tools available to inform decisions about infrastructure development and financing throughout the project cycle is so large that a systematic comparative analysis would warrant a paper in itself. To justify the rationale and motivations for a new device on top of the existing ones, this section compares two of the most comprehensive and detailed tools for decision-making on infrastructure investment planning and implementation from a pair of leading multilateral organizations: the World Bank Infrastructure Sector Assessment Program (InfraSAP) and the Global Infrastructure Hub (GIH) project preparation tool.

World Bank InfraSAP

The Infrastructure Sector Assessment Program is a structured diagnostic and pragmatic joint planning exercise that informs how the World Bank Group and a client government will partner to improve infrastructure access and performance. An InfraSAP may be undertaken on a standalone basis in response to a country's demands, or in the context of preparing a new Country Partnership Framework (CPF).

The purpose of the InfraSAP is to articulate a roadmap for priority infrastructure sectors that sets out:

- Sector objectives and the types and level of investment needed to meet those objectives

- How those investments can best be delivered, including systematically considering options for drawing on commercial capital to complement scarce public resources
- An assessment of the binding constraints on pursuing those options
- The coherent, sequenced set of actions at the project, sector and country level needed to overcome these constraints and deliver on priority infrastructure investment plans.

To inform this roadmap, the InfraSAP includes a diagnostic analysis of the conditions and constraints for investment in infrastructure, summarized in Table 1 below. This diagnostic work is based, wherever possible, on existing sector- and country-level data and analysis – in cases where extensive analytical work is already available, a detailed diagnostic analysis may not be necessary to complete the roadmap. An InfraSAP may cover all infrastructure sectors in a given country or may focus on a subset of priority infrastructure sectors or subsectors: for example, those where investment needs are greatest and/or where a significant opportunity to expand the role for commercial finance has been identified.

The InfraSAP tool has been in a pilot stage and is currently being refined. The new InfraSAP is expected to put a greater emphasis on understanding sector investment needs.

Table 1: Summary of InfraSAP Infrastructure Diagnostic Analysis

Sector analysis: structured diagnostic analysis of the investment conditions and constraints at the sector level	<ol style="list-style-type: none"> 1. Sector stocktake: asset quantity and quality, demand, supply and service levels 2. Sector structure and governance: structure by which infrastructure is delivered; strengths and limitations of the relevant laws, regulations and institutions; and political economy considerations at the sector level 3. Sector financial and operational performance: sector tariff levels and evolution, and implications for other funding requirements; operational strength of utilities/service delivery entities; resultant financial performance; historical financing approach
Country environment analysis: structured diagnostic analysis of the country-wide conditions and constraints for infrastructure investment	<ol style="list-style-type: none"> 1. Macro-fiscal environment: snapshot of overall risk level for infrastructure investment 2. Financial and capital market environment: development of domestic financial and capital markets and implications for supply of commercial finance 3. Investment environment: quality of overall investment environment, and competitiveness of main infrastructure construction and operation markets 4. Public investment management and governance: policy, legal and regulatory environment, institutional capacity and political economy considerations at the centre-of-government level

Global Infrastructure Hub Governmental Processes Facilitating Infrastructure Project Preparation Tool

In July 2018, the G20 finance ministers and Central Bank governors endorsed the G20 Principles for the Infrastructure Project Preparation Phase developed by the G20 Infrastructure Working Group (IWG). This led to the development of the governmental processes facilitating infrastructure project preparation tool by the Global Infrastructure Hub to support the operationalization of the G20 Principles. The reference tool is intended as a guidance document for governments and practitioners involved in infrastructure project preparation, and is built on a detailed country-lens review of project preparation practices in 15 countries. It seeks to address challenges faced by governments in early-stage project preparation through providing guidance in five areas, as shown in Figure 3.

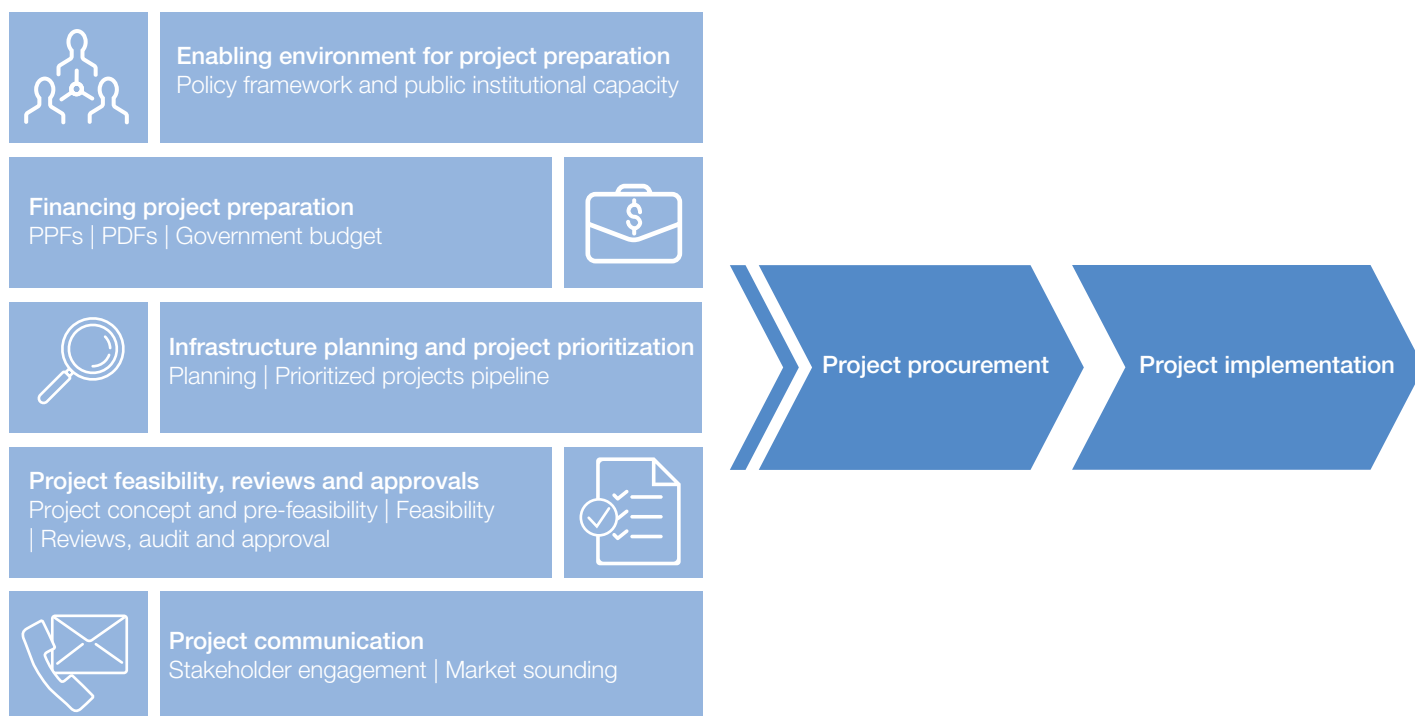
The tool synthesizes lessons and practices from global-, national- and subnational-level experiences to support governments in making project preparation processes more effective, and was designed with input and expertise from multilateral agencies, private-sector organizations and government officials from 15 countries. It blends conceptual inputs with country-case examples and effective methodologies, and references other tools and frameworks used in project preparation.

A comparative analysis

Table 2 below describes the main features of the two tools for practitioners preparing, planning and implementing infrastructure development investment. To summarize the findings in Table 2:

1. Both tools are flexible enough to be tailored to specific projects and country circumstances.
2. Neither addresses all aspects across the project cycle, as they either focus on specific parts (generally, strategic upstream decision-making or project preparation) or their guidelines apply to country-level diagnostics.
3. Only the InfraSAP has a strong policy component, since it is a diagnostic tool to identify bottlenecks and areas for reform and has a broad perspective on the implications of macroeconomic issues beyond the infrastructure sector.
4. From a financial perspective, these focus on a specific component (project preparation and not project implementation), or do not have a methodology to assess the decision about the public/private funding and financing split or have a specific framework to assess whether and how either private finance or sovereign lending from a multilateral development bank should be best deployed.⁶

Figure 3: Challenges addressed by Global Infrastructure Hub Project Preparation Tool in early-stage project preparation



Source: Global Infrastructure Hub <https://www.gihub.org/project-preparation/>

Table 2: A comparative analysis of InfraSAP and GIH project preparation tool

Tool	World Bank InfraSAP (Infrastructure Sector Assessment Program)	Global Infrastructure Hub Governmental Processes Facilitating Infrastructure Project Preparation Tool
Abridged Description	A structured diagnostic and joint planning tool to inform how the World Bank Group and the client government will partner to improve infrastructure access and performance	A guidance document for governments and practitioners involved in infrastructure project preparation, based on the experiences and lessons from 15 countries. The tool operationalizes the main elements for infrastructure growth under a strategic roadmap, “Developing infrastructure as an asset class” of the IWG in 2018
Project/ programme/ sectoral level	Programme-, sector- or country-level diagnostic	Primarily project level, even though the analysis starts from a review of the policy frameworks and public institutions
Flexibility	The tool can cover all infrastructure sectors in a given country or focus on priority sectors or sub-sectors	The tool can address a variety of sectors/country contexts
Project cycle	Strategic-level focus (infrastructure planning and prioritization) rather than project/programme implementation. Other tools offered by the WBG concentrate on project preparation and structuring (such as the Project Assessment Readiness and a PPP screening tool)	Early stages of project preparation, pre-procurement
Policy decisions	<p>Focused on upstream decision-making, reflecting the World Bank’s “maximizing finance for development” approach</p> <p>The tool identifies gaps in proposals and provides guidance on how to bridge them, across infrastructure sectors</p>	The focus of the tool is on project preparation rather than upstream policy decisions
Role of private finance	Systematically considers and prioritizes private solutions where they are economically viable, fiscally and commercially sustainable, transparent regarding the allocation of risks, provide value for money and ensure environmental and social sustainability	The tool concentrates on financing for project preparation rather than on the overall project cycle

Source: Authors’ elaboration

Beyond a common feature of flexibility and ability to adapt it across country circumstances and sectors, neither of the decision-making tools for infrastructure planning and implementation reviewed here have – at the same time – a strong policy focus, an application across the whole project

cycle and, most importantly, a framework for the decision of funding and financing the project between public, private or a combination of the two sources. Indeed, there is room for a tool that does just this: the World Economic Forum High-Level Tool.

The UK and IPA's Five-Case Model and Colombia's 4G roads programme

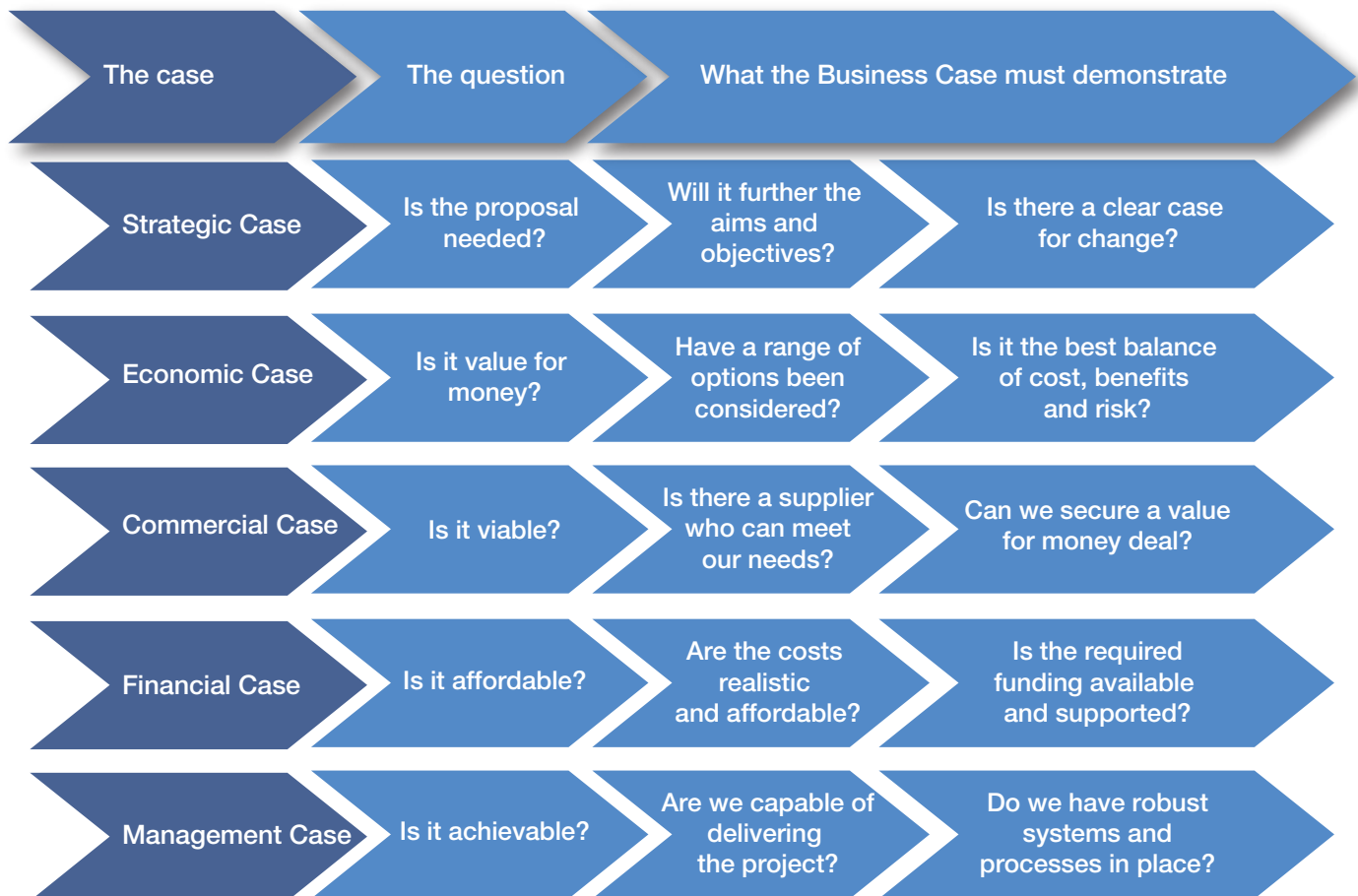
Introduction

The United Kingdom's Infrastructure Project Authority's Five-Case Model (5CM) is a business case-management tool for preparing, appraising and approving investment proposals. It is applicable at a programme and project level and appraises along five dimensions, or "cases": strategic, economic, commercial, financial and management. This tool provides high-level managers with an evidence-based decision-making framework for the coordination, delivery, monitoring and evaluation of the outputs, outcomes and benefits of a specific programme or project.⁷

The tool, created within Her Majesty's Treasury in the UK, is meant to comprehensively guide infrastructure project proposals in a process that is structured (step by step), multidimensional (looks at each step across the dimensions), iterative (analyses all dimensions simultaneously), multistage (analyses in three main stages: a Strategic Outline Case, an Outline Business Case and a Full Business Case) and dynamic (accompanying the development of the project throughout its life cycle).

The creators of the Five-Case Model are seeking to encourage its use in the international market and, to display its applicability, the tool has been applied to the Colombia national 4G road programme.

Figure 4: The Five Case Model



Source: Thorner and Nicholls, 2019⁸

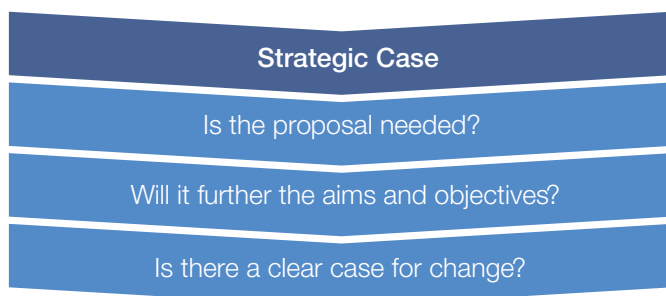
Transforming the transport sector in Colombia – the 4G programme: context

In 2010, the national government decided to develop the most ambitious infrastructure programme in Colombian history, and one of the largest in Latin America. Aimed at increasing Colombia’s economic competitiveness and integration into the global market, the programme looked to reduce operational costs and transfer of the national supply chain. The so-called 4G programme focused on the construction and rehabilitation of 40 highways totalling more than 7,000 kilometres (3,500 miles), with an investment of approximately \$18 billion and the aim of connecting the main ports with the major industrial clusters and consumption nodes of the country.⁹ The unprecedented programme introduced major changes. Improved risk and cost-sharing and dispute-resolution mechanisms were introduced to encourage private-sector participation and mitigate the government’s fiscal restrictions, allowing the prioritization of social expenditures for public funds.

Today, the programme is recognized worldwide as a leading example. Over 60% of an \$18 billion toll road programme has guaranteed its financing through the mobilization of multiple sources of finance (31% from local banks, 32% from the international banking community, 16% from institutional investors, 11% from investment funds and 10% from FDN¹⁰), with unprecedented achievements such as the early-stage participation of institutional investors and local capital markets. From 2016 to 2018, Colombia improved its position in the Logistics Performance Index, going from being ranked 94th to 58th¹¹ – an improvement that was in no small part due to improvements made under the 4G programme.

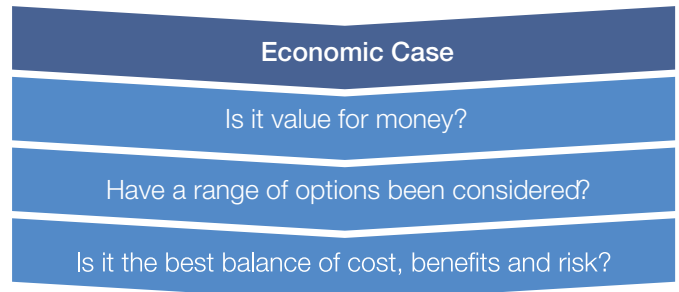
4G programme: A Five-Case Model analysis

In an attempt to show the strengths and opportunities of the 5CM at the programme level, a basic analysis of the 4G programme in Colombia (4G) and the 5CM business case was conducted. All five critical cases used within the 5CM were studied and analysed, and particular actions were delivered to accomplish the general purpose of the programme.



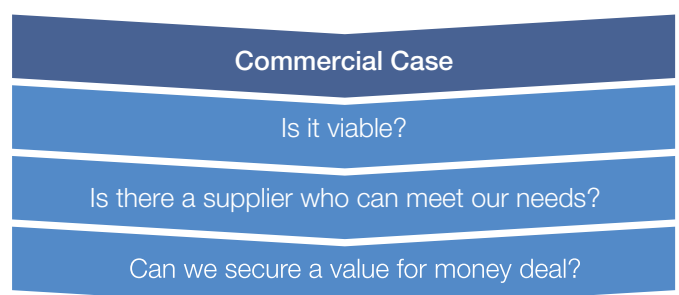
With regards to the dimensions addressed in the **Strategic Case**, the 5CM suggests the analysis of the fit of the programme into a major strategic policy. It also recommends an understanding of clear objectives of the programme that are SMART: specific, measurable, achievable, relevant and time-constrained.

The 4G programme was part of a major infrastructure-policy push launched by the Colombian government in 2010, with the main objective of connecting the main ports with major production centres and looking at projects selected from a long list identified from the government’s master transportation plan. All of the projects included in the programme were roads that complied with the higher objective of connectivity, increasing the competitiveness of the country.



The **Economic Case** of the 5CM methodology identifies the option that would deliver the best social value. The prioritization of the projects was based on technical studies that would guarantee “early victories” given political-cycle time constraints. To be able to demonstrate social value, the method requires the narrowing down of a longlist to a shortlist of projects with proven socioeconomic profitability. The first group of projects in the 4G programme responded to the early-victories criteria for projects that were already prepared to be procured in the market. Further socioeconomic examinations were carried out later in the process; however, some initial cost-benefit analysis was conducted early in the project’s preparations, showing a very positive impact from these roads, given their strategic locations connecting the major cities with the main ports.

These factors were present in the 4G case and are not fully considered in the methodology as well as the strategies to manage them. A way in which these political risks could be mitigated is by having strong and technical personnel as well as solid institutions with high standards of corporate governance. If the 5CM had been applied thoroughly, perhaps deeper analysis might have been made, but the political decision to move forward with the selected projects might have prevailed.



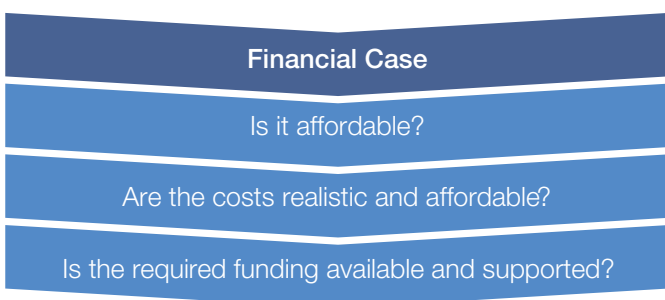
The **Commercial Case** of the 5CM considers the selection of a programme and its projects that will later result in a viable procurement that attracts interest from both the public and the private sectors. This requires a deep understanding of the market, an analysis of several procurement methods and a clear idea of the allocation of risks. In terms of risk allocation, the National Planning Department (DNP) and the

PPP agency (National Infrastructure Agency – ANI) carried out the development of the risk matrix, which included consultation with the private sector via expert workshops.

The 4G programme was launched as a public-private partnership (PPP) mainly due to fiscal constraints and the fear of cost and time overruns common in traditional procurement. Public entities had proven not to be the most efficient in handling these types of overruns, and the private sector could bring about benefits in that respect. The PPP framework introduced for the 4G programme was based on the availability payment principle developed in the UK, which was an appropriate way of dealing with the misalignment of the previous model between the sponsor and the interest of the government in concluding the works on time and at cost.

Neutrality is fundamental in the decision of the procurement method. Tools such as the High-Level Decision-Making Tool being developed by the GFC adopt conscious neutrality between public procurement and PPP models, recognizing their advantages and disadvantages.

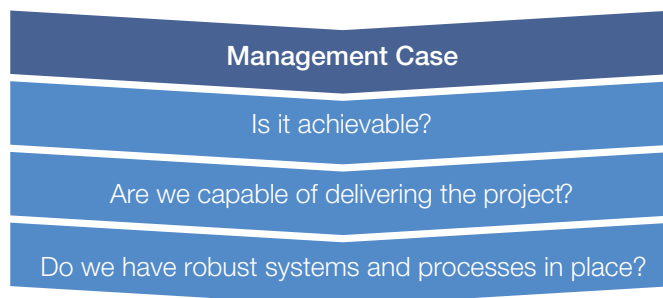
In terms of risk allocation, the National Planning Department (DNP) carried out the development of the risk matrix, which was also consulted with the private sector through expert workshops. Applying the 5CM *ex ante* might have resulted in the greater involvement of the private sector in the analysis towards higher-risk optimization. The “Christmas tree” tool again performs well in terms of risk allocation, which can be useful together with the 5CM.



Demonstrating the affordability and funding of the programme is the main objective of the **Financial Case** of the 5CM. With 4G, the whole scheme was presented as a PPP programme that would be based on availability payments funded by tolls and in a similar proportion by the committed future flows of the national government budget. An assessment of the impact of the programme in the general balance sheet and income and expenditure, which would be desirable in terms of the Five-Case Model, was carried out at a general level.

Moreover, the 5CM methodology requires the programme to confirm the support of the major stakeholders as well as the timing for obtaining permits and licences. The 4G programme worked in detail on the risk matrix and the allocation of the environmental and land acquisition risks, but perhaps a deeper involvement of the private sector and consultation with other stakeholders might have avoided some project delays, particularly with regard to environmental licences. However, the main source of these delays was politically based. The slow design of government institutional and regulatory frameworks created time

pressures for finalizing the project preparation, causing them to award projects very early in their timelines. Consequently, many had not obtained their environmental licences.



When looking at the **Management Case**, the success of 4G can be largely explained by the government’s strengthened institutional capacity to manage such a large programme. On the one hand, there was the total overhaul of the PPP agency into what is now ANI in order to attract high-level staff and eradicate past bad practices in the contract design and awarding process. On the other, there was the creation of Financiera de Desarrollo Nacional (FDN) as a specialized infrastructure development bank; this was highly innovative in its mix of government, multilateral and private capital, providing FDN with the human and financial resources to lead a major transformation of Colombia’s local project-finance market.

It is not easy to identify critical issues that could have affected the 4G programme as a whole, but, while the programme itself was proven to have considered all of the dimensions in an intuitive way, having applied the 5CM strictly *ex ante* and complementing the analysis with other existing tools might have resulted in additional benefits.

Final remarks

The 5CM methodology case study shows that the 5CM covers most of the aspects required to build a solid pipeline for a specific sector. However, there are four particular aspects that need to be highlighted:

1.1 Simplicity

The programmatic 5CM is a powerful, useful and relatively simple tool that helps decision-makers generate a programme. It addresses vital aspects such as business strategy, scope, risk allocation, affordability and funding, programme governance (programme board, senior responsible owner, programme manager etc.), and roles and responsibilities, among others, which constitute the backbone of a full high-level analysis. However, in certain countries without experience in identifying and defining sectoral programmes, the tool could improve the way it guides the user in order to encourage a broader contextual analysis.

Essential questions could be added to the methodology to guide high-level decision-makers in this sense: Are current institutions capable of addressing the programme that will be launched? What do they need and lack? What are the critical bottlenecks of infrastructure projects in a specific country that can be addressed via regulatory modifications?

Additionally, encouraging the user to think of more innovative mechanisms for funding and financing could be added to the methodology, likely widening the programme's impact in the future. The latter is important when dealing with large and ambitious programmes in less developed economies in which new mechanisms may be needed, but which lack the capacity to develop them themselves.

1.2 Complementary methodologies

The 5CM is adept at assisting with building a sectoral programme within a policy framework. Nevertheless, in order to serve as a high-level decision-making tool, the 5CM could be complemented by other already existing tools such as the InfraSAP and the World Economic Forum High-Level Tool, allowing users to address matters that are not directly solved by the 5CM methodology.

Along the 5CM, there are particular methodologies included for analysing specific topics of the various cases, such as the options framework within the economic case. As in this case, the 5CM should include, or at least suggest, the use of different complementary methodologies to better guide inexperienced users of the 5CM. This will certainly encourage users to study, investigate and question which of the suggested complementary methodologies would be a better fit for their own specific situation.

1.3 The 5CM needs to be adapted to each particular context (country)

The 5CM is a versatile and flexible tool developed for the UK environment to allow projects to be prepared in a standardized way, knowing all of the different authorities' checkpoints and approval milestones in advance. The international version was later introduced as an effective technique for preparing programmes and projects under the same quality and standards.

However, although the HM Treasury offers an international version of 5CM guidance, there are certain aspects that should be adapted to each country. For example, in the Colombian context of the 4G programme, the financial model of the concessionaire is not delivered to the government, as it might result in future legal controversies due to inconsistencies between financial-model forecasts and actual figures. The 5CM requires that the financial model be delivered to the entity in charge of the project, so that it can be compared to the original financial forecasts and retain the validity of the value-for-money approach.

Moreover, as with any government programme, the length of political cycles, as well as particular political interests, might influence decision-makers and drive the selection of programmes and projects that might not always follow socioeconomic criteria. These factors were present in the 4G case in some degree; however, they are not fully considered in the methodology, nor are the strategies to manage them.

1.4 Neutrality

Neutrality is fundamental to deciding on the procurement method. Tools such as the World Economic Forum High-Level Tool being developed by the GFC adopt conscious neutrality between public procurement and PPP models, recognizing both their advantages and hurdles. Applying the 5CM *ex ante* could result in greater involvement of the private sector in the analysis towards higher risk optimization. The World Economic Forum High-Level Tool again performs well in terms of risk allocation, which can be useful when used together with the 5CM.

European PPP Expertise Centre (EPEC)'s PPP Project Preparation Status Tool

Background

The European PPP Expertise Centre (EPEC), founded in 2008, is part of the European Investment Bank (EIB)'s advisory services in Luxembourg. Its purpose is to support the public sector (ministries, municipalities, national or regional PPP units) of member states across Europe, as well as the European Commission, with regard to PPP projects.¹²

As part of its PPP "arsenal", in addition to reference material on topics such as the statistical treatment of PPPs and the status of the PPP market in Europe, EPEC provides two vital support resources: the Guide to Guidance and the PPP Project Preparation Status Tool (PPPPrep Tool).

The tool is an Excel-based questionnaire meant to assess the readiness of a project for PPP procurement by a tender authority, whereas the guide is an online and printable reference, with global examples and guidelines, broken down into the main phases of a PPP project, from identification all the way through to implementation, to be used as either a complementary or standalone resource.

The tool must be completed from start to finish, whereas the guide can be consulted completely independently for "good practice" on PPP guidelines worldwide, for any of the phases of the project cycle.

The PPP Project Preparation Status Tool (PPPPrep)

EPEC's PPPPrep Tool was prepared originally in 2014 as an Excel-based questionnaire with 180 questions, each to be answered with "yes" or "no" by tender authorities developing a PPP project. The tool's questions cover activities from the project identification phase through to launching procurement.

The tool's questions are grouped in two ways – by their nature (details are green-coloured, while overviews are yellow) and by project phase: (1) selecting and defining the investment, (2) readiness to start preparing the Project as a PPP; and (3) readiness to procure the project. Each phase has its own detailed questions.

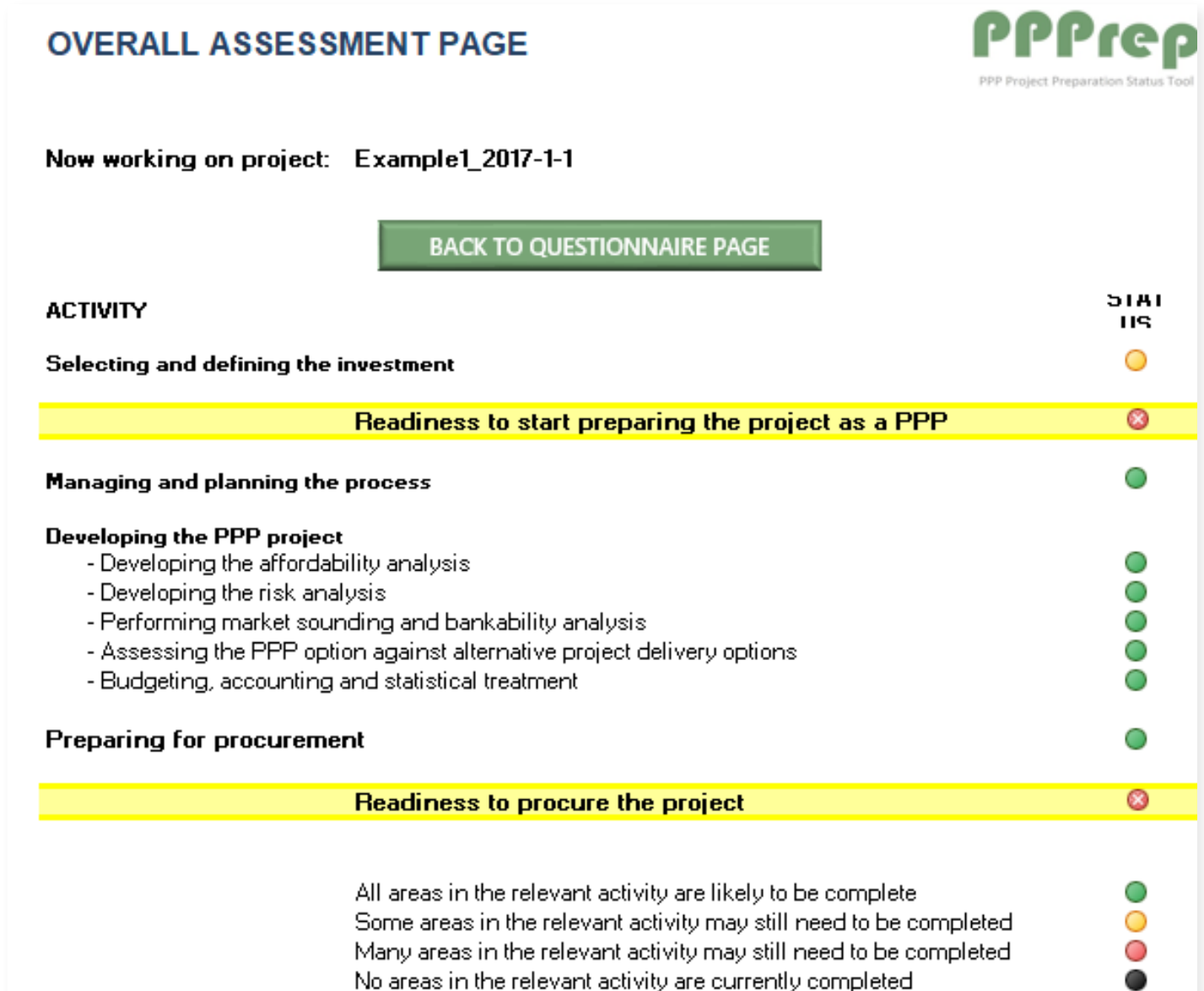
To help users better understand the topics raised by the questionnaire, links to EPEC's Guide to Guidance are provided within. Some questions are marked with a ∞ symbol, which designates that question's interdependence with other parts of the questionnaire.

The results (and the corresponding questions) of the PPP Project Preparation Status Tool are grouped into the aforementioned three phases, where each category and

each question gets a coloured bullet – green, yellow, red or black, denoting the extent of the activities' completion, with green being most and black least complete.

If only some of the questions are completed in a section of the tool, the resulting answer on the assessment page will show as "incomplete" with a red dot and an "X".

Figure 5: PPPrep overall assessment page



Source: EPEC PPP Project Preparation Status Tool, partial screenshot of questionnaire page

Critical review of EPEC PPPrep Tool

The tool is a “critical friend” of the procuring authorities, aiming to help them prevent project failure through preparedness. A project is most likely to succeed if it “passes” the tool’s questionnaire.

The tool is meant to address only a particular stage in the life of the project: its formal launch – not the pre-launch economic case or cost-benefits case-making – and it stops at the procurement stage.

The reasoning is that if the authority wants to change its mind before procurement, the damage to funding, reputation, impact on future projects and investor interest is minimal compared to doing so afterwards.

In this sense, the tool ensures that the authority does not have to go backwards once it is engaging with the private sector.

Looking at the PPPrep Tool’s questions, it becomes evident that the tool follows the Five-Case Model; however, the strategic dimension is less evident as the PPPrep Tool is introduced into the process later on.

The tool is forward-looking (i.e. it is not intended for auditing a project) and, according to informal discussions with EPEC, it has been more useful as a thinking framework. For example, when talking to tendering authorities about the PPP process, the tool is useful in that its questions help make clear to the authority all of the areas it needs to consider.

Inexperienced authorities often set up unrealistic resources and timelines for PPP projects. A tool such as this gives them an understanding of the areas they need to improve to procure a project as a PPP. For projects that are, or appear to be, ready, the tool serves as a good benchmark. Given that the tool is available in the public domain, there are no firm figures to indicate how often it has been used.

The main question that the tool answers is: “Does it really make sense to spend more money and time to make a specific project fit to tender as a PPP?”

Comparison with the World Economic Forum High-Level Decision-Making Tool

The World Economic Forum High-Level Tool focuses on allowing high-level decision-makers to evaluate what type of procurement process a project or programme should use. Conversely, the PPPrep Tool is a preparatory and readiness-assessment tool. It is not so much geared to public authorities’ initial consideration of the procurement method as it is to getting projects ready to be tendered successfully as PPPs; as such, it is skewed favourably towards PPPs.

In comparison, the Forum’s tool attempts to be neutral in its approach to procurement and is positioned earlier in the process; it also stops earlier in the process, without getting into preparatory and implementation details, such as putting tender authority teams into place for procurement, managing authorizations etc.

Although the Forum’s tool considers several elements contained in the first two phases of the PPPrep Tool – including (1) selecting and defining the investment and (2) readiness to start preparing the project as a PPP – its main goal is to provide the basis for deciding between public or PPP procurement at the start of the process.

The Forum tool is also “leaner” and shorter in comparison.

Linking the chain: A new tool for a more complete view

The World Economic Forum High-Level Decision-Making Tool

The previous pages of this report have chosen several of the most promising project preparation tools to explore their practical applications. However, there is still a need for a high-level, adaptable and neutral tool to give decision-makers guidance on how to procure public infrastructure projects. This is why the GFC designed the World Economic Forum's High-Level Decision-Making Tool (the **World Economic Forum High-Level Tool**). The tool is intended as a visual representation of the status and significance of the main risk-based parameters underpinning the choice of a procurement method for new infrastructure (the **project**), either public procurement (government-funded) or PPP procurement (private-sector funded). It is designed to facilitate dialogue with high-level decision-makers who need to consider complex and long-term choices without always having expert insight into the subject. The World Economic Forum High-Level Tool is therefore deliberately simplifying the issues for executive purposes.

Taking a neutral view

Recognizing that both PPPs and public procurement both have distinct advantages and challenges, the World Economic Forum High-Level Tool adopts a deliberately neutral position between the public procurement and PPP models. However, it does recognize that where PPP is feasible, this ought to be the procurement method of choice, limiting the burden on stretched public finances in developed or emerging markets.

Complementing the field

The World Economic Forum High-Level Tool is positioned upstream from the vast quantity of existing tools to ensure that it is complementary to various infrastructure project preparation guidebooks. The tool aims to be sufficiently accessible (not requiring the absorption of hundreds of pages of background documentation) and flexible (offering neutral information about the drivers behind a public or PPP procurement choice, rather than steering the decision). It is meant to be used in early policy discussions with high-ranking decision-makers. Once a decision has been reached, the more detailed project preparation tools would come into play to take the project to the design stage.

The World Economic Forum High-Level Tool's visual depiction consists of an "Alpine tree" chart in which:

- The tree is split between a left side pointing towards public procurement and a right side pointing towards PPP (for the sake of clarity, no judgement is intended behind the right-side or left-side positioning on the tree).
- Each parameter is represented by a horizontal bar, the width of which is proportional to the weight of the parameter as a decision factor (narrow bar: moderate importance; wide bar: high importance).
- Within each horizontal bar, the project's characteristics are plotted left, right or centre to indicate whether the project lends itself better to public or PPP procurement.
- A secondary plot can be marked to show how the assessment of the parameter would evolve if certain contractual measures or mitigants are implemented.
- The proportion of plots showing left or right and their respective weight will guide the decision to go for public procurement (weighted majority of left-side plots) or PPP (weighted majority of right-side plots).
- The World Economic Forum High-Level Tool deliberately refrains from determining a hard numerical "score". This is intended to recognize that perceptions can be very different depending on stakeholders' standpoints and that decision-making is always subject to political considerations that can override a technical assessment.
- The ambition of the World Economic Forum High-Level Tool is therefore to facilitate a fully informed decision by high-level decision-makers, not to make the decision in their stead.

The main parameters to consider are basically the following, grouped by significance, noting that each parameter can be subdivided into more specific criteria for a refined analysis:

Very strong significance

- **Country risk:** This very general and subjective factor is best split into more objectively assessable elements such as:
 - macroeconomic stability (inflation levels, includes adequate foreign-exchange reserves, established convertibility)
 - fiscal space available to the government
 - cross-border feature
 - history of PPP controversy

- **Counterparty risk:** Beyond the country risk, has the public party to the project been confirmed? Is it a sovereign counterparty (e.g. line ministry with ministry of finance backing) or a sub-sovereign one (e.g. municipality or entity such as a road agency)? If the latter, will the counterparty risk be deemed acceptable by investors depending on the counterparty's ability to generate own revenues (vs. a situation where it is dependent on annual budget allocations from the central government)?
- **Political will and primary stakeholders/community acceptance and alignment:** What is the willingness of the government (at minimum, presidential level, prime minister's office, finance and line ministries) to undertake the project? Have certain decisions already been made on important parameters that would restrict the choices available? Have primary stakeholders (e.g. the national power utility for a power project) endorsed the project or at least not objected to it? Has the local community expressed acceptance of (or, conversely, opposition to) the project?
- **Local vs. international currency revenues:** Will prices be denominated in (or pegged to) a widely traded and stable international currency (e.g. US dollars, euros), hence ensuring a close correlation between the revenue currency and the capital (equity and debt) currency? If not, are hedging or indexation mechanisms available to ensure that the project can cover any foreign currency costs, including debt and cost of capital?
- **Economic and social internal rate of return:** Is the project expected to have clear economic and social benefits that will cover the costs of the project and compensate for the unavoidable externalities?

Strong significance

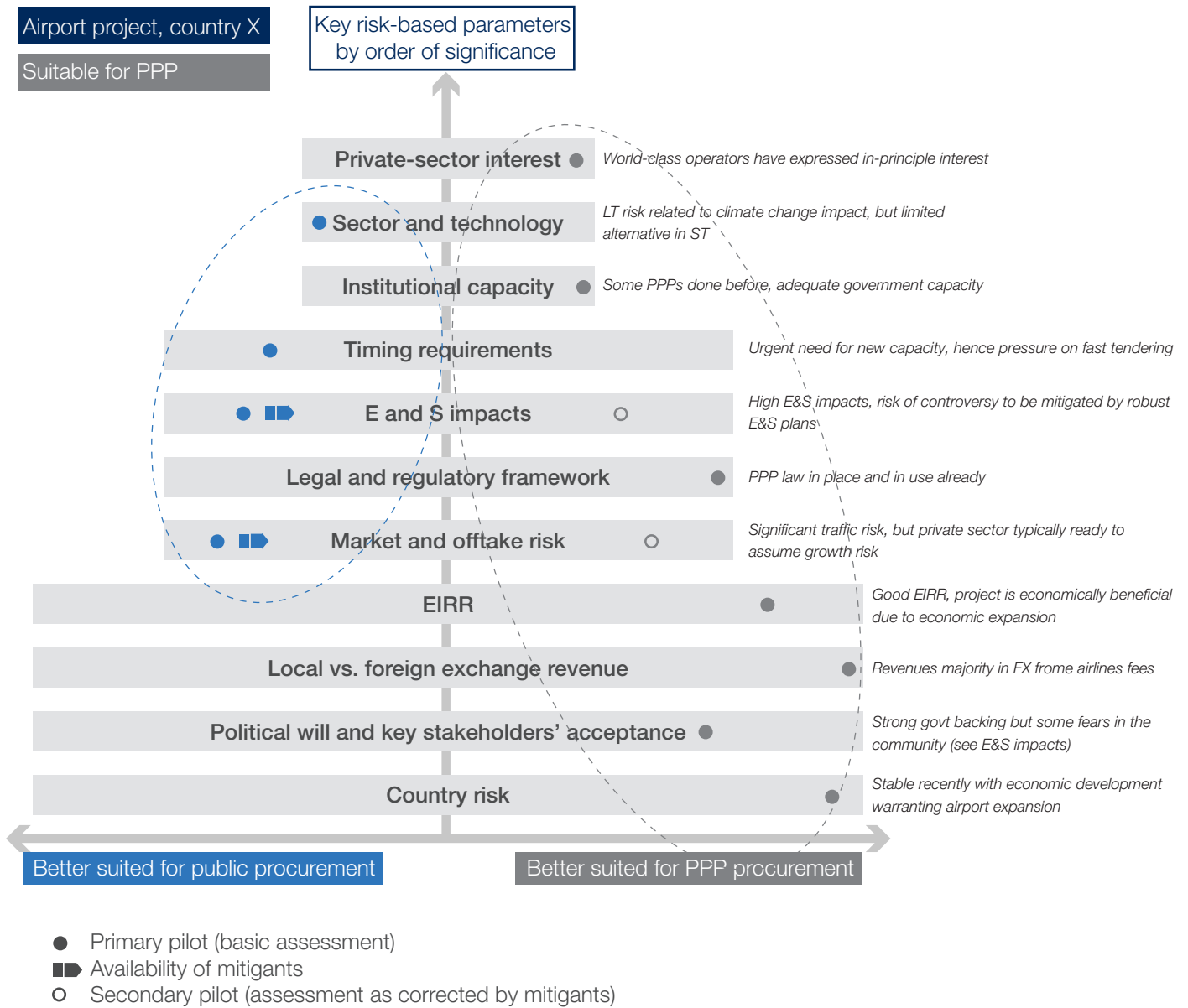
- **Market and offtake risk:** Is the market for the project's services well established, ensuring a predictable level of demand (e.g. traffic) with limited volume and price uncertainty? Are volumes contracted with creditworthy counterparties?
- **Legal and regulatory framework:** Is there an existing PPP law of a good standard and successfully tested on previous occasions? Failing that, is the government prepared to enact special implementation agreements with force of law to govern the project?
- **Environment, social and governance (ESG) impact:** Could the project entail substantial negative impacts from an ESG perspective (or, conversely, generate positive impacts), hence showing large externalities that need to be managed/mitigated?
- **Timing requirements:** Does the project need to be completed/operational by a hard date, thus constraining the time allowed for robust preparations and due diligence?

Moderate significance

- **Institutional capacity:** Is there an existing PPP structuring competency inside the government (e.g. a PPP unit) with staff demonstrating the relevant expertise and a track record of implementing projects of similar magnitude? Failing that, is the government prepared to delegate the project structuring to world-class (as opposed to local) advisers to lead design and tendering?
- **Government co-financing:** Is government co-financing potentially available (and affordable) for the project? If yes, which portion of capital expenditure is covered, thus limiting the reliance on private-sector funding?
- **Business and technology:** Is the project in a sector that could give rise to controversy (e.g. coal extracting or burning)? Is the project potentially facing medium-term obsolescence risks? Could technology or business-model changes imply a risk of the asset being stranded? Can the private sector offer solutions to mitigate the risk? Failing that, the government might have no choice other than undertaking the project on a public-sector basis.
- **Initial private-sector interest:** Have sponsors or investors already shown interest in the project or approached the government (including with unsolicited offers)? Could these potential sponsors/investors attract special scrutiny and criticism due to their past track record?

The chart below provides a basic illustration for a new airport in Country X, which would be deemed amenable to a successful PPP given the balance of assessment against the relevant parameters:

Figure 6: Example illustration for a new airport



source: Authors

World Economic Forum High-Level Tool in action: Pakistan power sector

In the mid-1980s, Pakistan had an installed capacity of 4,000mW, and was suffering from chronic power shortages. The demand projections showed that the installed capacity needed to double to overcome shortages in the grid, which at the time covered only 40% of the population.¹³ The Government of Pakistan (GoP) was attempting to develop the power system through national utilities – the Water and Power Development Authority (WAPDA), a wholly government-owned entity that served the entire country except the urban area of Karachi (served by Karachi Electric Supply Company).

The GoP's approach at the time was to raise 40% of the capital-investment needs from WAPDA's internal resources (a vital condition of the GoP's multilateral partners), e.g. net tariff revenues after meeting costs; and the World Bank and the Asian Development Bank (ADB) were providing the remaining 60% as loans. From a political economy perspective, this internal-resource condition restricted the amount of capital expenditure that could be implemented since the politically and socially affordable level of annual tariff increases ranged from 10–12% per year.¹⁴ As a result, only about 1,000mW could be added to the grid as investments were also to be allocated to concomitant transmission and distribution development.¹⁵

The GoP's Ministry of Water and Power (MWP), led by Secretary Akram Khan, was committed to finding new investments while trying to maintain the sociopolitical equilibrium. As raising equity via WAPDA was not possible, Secretary Khan explored the possibility of getting the private sector to invest in power generation assets. The GoP and WAPDA were struggling to install power generation capacity in the mountain regions of Swat and Gilgit, and Secretary Khan decided to issue a newspaper advertisement for 80mW (4 units of 20mW each) of diesel generator sets to be supplied, installed and operated by the private sector.¹⁶

Two separate proposals – 600mW each – of oil-fired capacity were made by Hawker Siddley (UK) and Xenel Group (Saudi Arabia, owned by the Ali Reza brothers) for a total of 1,200mW. The GoP was interested in taking advantage of the entire offer of 1,200mW from the private sector, and the decision was made to combine the Hawker Siddley and Xenel proposals into a single proposal implemented as a BOT (build–operate–transfer). A Letter of Intent was issued by the GoP on this basis and it began its work on the policy, legal and regulatory framework creation, which resulted in the implementation agreement, power purchase agreement etc.¹⁷

Even though closing the financial aspects took seven years from the date of the Letter of Intent, the construction and commissioning took place within three years. At the time, Pakistan had 25% of the installed capacity by the private sector. In 1994, the government offered to buy any power priced at \$0.06/kWh (net of taxes and levies) or less; the private sector responded positively once again. Another 1,000mW in various capacities were installed between 1996 and 2002.¹⁸ At one point in 1999, Pakistan even initiated a dialogue with India to export power to its neighbour.

Private-sector participation in Pakistan is considered a success story whereby several thousand mW of capacity are owned and operated by private enterprises. Furthermore, Pakistan has since enlisted the private sector into the creation of large-scale hydropower projects.

Analysis

This is a case in which the policy-makers, led by the Power Secretary of Pakistan, decided to complement public capabilities to develop the power infrastructure with private-sector investment. The main decision points were:

1. The necessity of narrowing the supply-demand gap without burdening the system: e.g. avoiding sharp tariff increases and government indebtedness
2. Sustained political will demonstrated over three governments – both military and civilian – which was buttressed across the bureaucratic spectrum
3. Consensus-building with the dominant public-sector entity WAPDA and private-sector entities. WAPDA's role was enhanced as the holder of the PPA wielded a degree of control and oversight of the private BOTs
4. Sustained commitment of private investors to remain engaged in the drawn-out process of the project's realization
5. Continuous support from multilateral financial institutions, especially the World Bank, which was able to mobilize support from other financiers, in particular Japan Exim and USAID. It also invented the Partial Risk Guarantee Instrument to mitigate sovereign risks faced by private investors and, in turn, the limited-recourse lenders to the project

Therefore, the fundamental question policy-makers need to ask themselves in deciding whether to go the public-sector route or bring in the private sector for infrastructure is this:

Can the supply-demand gap for a particular infrastructure service be bridged and sustained in the shortest time frame possible without resorting to sociopolitically unacceptable charges for the service (e.g. tariffs) and without creating macroeconomic issues (e.g. high public indebtedness)?

If the answer is yes – which will need a significant amount of study and analysis – then the country can choose (to remain with) the public-sector option, subject to the assessment of its technological, managerial and accountability capabilities. If the answer is no, then the country can choose to bring in private-sector funding. However, to make this decision, especially in emerging markets, further questions need to be asked, such as:

1. Can the political will – often to be sustained over long periods – to make the needed policy changes that will provide a bankable framework be demonstrated?
2. Can consensus be built with the incumbent public-sector entity whose mandate it is to provide the service in question?
3. Are there enough private investors who would be committed to remaining engaged throughout the development and investment time frames, especially on early-stage projects?
4. Will there be sufficient technical and financial assistance available from outside to realize the bankable framework and fund the projects?

If the answers to these four questions are positive, then the country can indeed go for the private-sector option.

Other areas are often thought of as necessities for private-sector participation in emerging markets, but they may not be necessities in reality. These are listed here with examples found in the exercise below.

- It is often asked whether the requisite legal and regulatory framework is in place. Legal and regulatory frameworks can be created with the right political will, and institutionalized as private-sector participation increases.
- It is also often asked whether there is institutional capacity – e.g. a PPP unit – available to invite and realize private-sector participation. While this is crucial for the later generation of projects, the initial group does not require it.
- Market, offtake and currency risks: These are all resolvable, as part of establishing a bankable framework, if there is political will.
- ESG risks: These are governed by lenders (and most infrastructure funds) as, without mitigating these risks, there will be no project.

World Economic Forum High-Level Tool: Pakistan power-sector case study

Significance of parameter	Description of parameter	Parameter applied to Pakistan case study	Remarks
Very strong significance	<p>Country risk: This very general and subjective factor is best split into more objectively assessable elements such as: macroeconomic stability (includes adequate foreign exchange reserves, established convertibility), cross-border features, history of PPP controversy, etc.</p>	<p>The country leadership and sectoral champions did not recognize these country risks (macroeconomic stability, adequate foreign exchange reserves, convertibility etc.), but readily accepted to mitigate these risks in the project agreements, and made use of instruments offered by multilateral and bilateral organizations.</p>	<p>High-level policy-makers are driven more by the economic needs of how to accelerate infrastructure build-out, and rarely offer/articulate possible country risks. However, the willingness to recognize (e.g. when highlighted by investors/financiers) and offer mitigatory factors is a necessary parameter.</p>
	<p>Political will and prime stakeholders/community acceptance: What is the willingness of the government (at minimum, presidential level, prime minister's office, finance and line ministries) to undertake the project? Have certain decisions already been made on important parameters that would restrict choices available? Have primary stakeholders (e.g. the national power utility for a power project) endorsed the project or at least not objected it? Has the local community expressed acceptance of (or, conversely, opposition to) the project?</p>	<p>Once the decision was made to attract private investment, Pakistan demonstrated sustained political will over three governments – both military and civilian – which was also buttressed across the bureaucratic spectrum. There was indeed significant opposition from the national utility, but state infrastructure built the necessary consensus with WAPDA. In fact, WAPDA's role was enhanced: As the holder of the PPA, it wielded a degree of control and oversight of the private BOTs.</p>	<p>Having the requisite strong, sustained and demonstrated political will is perhaps the most important parameter in the “very strong significance” category (and is required for mitigating country risks).</p>
	<p>Local vs. international currency revenues: Will prices be denominated in (or pegged to) a widely traded and stable international currency (e.g. US dollars, euros), hence ensuring a close correlation between the revenue currency and the capital (equity and debt) currency? If not, are hedging or indexation mechanisms available to ensure the project can cover foreign currency costs, including the cost of capital?</p>	<p>Sectoral revenues were in local currency (Pakistan rupees) and all investment, and therefore capital servicing, was required to be in international convertible currency. The Government of Pakistan, together with the central bank (State Bank of Pakistan) guaranteed convertibility, set up a hedge fund with the help of the World Bank and Japan Exim to part-finance the private BOTs.</p>	<p>Two points to note: (1) This is a common problem in all developing countries; and (2) this parameter could be covered under the Country Risks parameter. Even in countries that have their local currencies pegged to convertible currencies, the availability of hard currency is a risk that needs mitigation (and thus political will).</p>
	<p>Economic and social internal rate of return: Is the project expected to have clear economic and social benefits that will cover the costs of the project and compensate for unavoidable externalities?</p>	<p>For high-level decision-making, the fact that the country urgently needed to double the installed power-generation capacity (which then covered 40% of the population) was sufficient to demonstrate economic and social rate of return from the investment. This was proven later by various studies and analyses, which resulted in Pakistan offering 18% US dollar-linked post-tax return on an internal rate of return (IRR)¹⁹ basis to the investors. The resulting economic and social benefits were immeasurable.</p>	<p>The economic cost-benefit analysis of public vs. PPP, as referenced in the analysis above, is one of the main questions in this process.</p>

Significance of parameter	Description of parameter	Parameter applied to Pakistan case study	Remarks
Strong significance	<p>Market and offtake risk: Is the market for the project's services well established, ensuring a predictable level of traffic with limited volume and price uncertainty? Are volumes contracted with creditworthy counterparties?</p>	<p>In the Pakistan case, once the high-level political decision – which was based on significant shortage of power (e.g. market risk was minimal) – was made, a significant amount of time was spent arriving at bankable structures and documents to mitigate offtake risk.</p>	<p>This parameter is correctly positioned as being a notch below the very strong significance level because, if the decision is made (based on economic needs) and there is political will, these risks can be mitigated.</p>
	<p>Legal and regulatory framework: Is there an existing PPP law of good standard that has been successfully tested on previous occasions? Failing that, is the government prepared to enact special implementation agreements with the force of law to govern the project?</p>	<p>Taking the Pakistan case, when the first Independent Power Projects were done, there was no legal and regulatory framework, and it was regulation by contract (implementation and power purchase agreements etc.). However, once the IPPs came into being, the sector was reformed – WAPDA was unbundled, a regulatory institution was established etc.</p>	<p>In most, if not all, of the developing countries that have some private participation in infrastructure, private-sector entry has preceded the establishment of a legal and regulatory framework. Existence of a legal and regulatory framework is not a prerequisite for private-sector entry; however, political will to enable regulation by contract is a requirement.</p>
	<p>Environment, social and governance (ESG) impact: Could the project entail substantial negative impacts from an ESG perspective (or, conversely, generate positive impacts), hence showing large externalities that need to be managed/mitigated?</p>	<p>In the Pakistan case, the ESG risks were identified and mitigated as part of the projects' development after the decision was made to seek private investment, initially based on fuel oil-fired thermal power (as this was the proposal by the private sector).</p>	<p>Infrastructure will have ESG impacts and it is important that high-level policy-makers consider what will have the least negative impact as early as possible and then mitigate for it.</p>
	<p>Timing requirements: Does the project need to be completed/operational by a fixed date, thus constraining the time allowed for robust preparations and due diligence?</p>	<p>In the Pakistan case, given that it was a first in the developing world, completing the deal was a lengthy process. (Other factors, such as a change of government, also affected the process.)</p>	<p>While fixed dates (usually coinciding with a political cycle) are put in place, other circumstances dictate time frames.</p>

Significance of parameter

Description of parameter

Parameter applied to Pakistan case study

Remarks

Institutional capacity: Is there an existing PPP structuring competency within the government (e.g. a PPP unit) with staff who can demonstrate the relevant expertise and a track record of implementing projects of a similar magnitude? Failing that, is the government prepared to delegate the project structuring to world-class (as opposed to local) advisers to lead design and tendering?

There was no institutional capacity in Pakistan when the high-level decision was made to attract the private sector into the power market. However, the need for a specialized agency was immediately felt, and the Private Power Investment Board (PPIB) was set up (comprised of the bureaucrats and technocrats that were in the committee that evaluated and negotiated the first BOT).

Like the legal and regulatory framework, institutional capacity would not be a prerequisite for the need to attract the private sector, but once the decision implementation begins, institutional capacity is a must.

Government co-financing: Is government co-financing potentially available (and affordable) for the project? If yes, which portion of capital expenditure is covered, thus limiting the reliance on private-sector funding?

In the Pakistan case, given that the very first BOT was too big – adding 25% of the existing capacity – the financing had to have government participation. A new fund – the Private Sector Energy Development Fund (PSEDF) – backed by the World Bank and Japan Exim was set up in a commercial bank in Pakistan (to fund in Pakistan rupees), and World Bank’s partial risk guarantees were offered in addition.

Government participation in financing will significantly mitigate the risks perceived by private investors (and limited-recourse financiers). However, the decision to participate in financing should be taken on a case-by-case basis when the high-level decision is made to proceed with the private-sector option.

Business and technology: Is the project in a sector that could give rise to controversy (e.g. coal extracting or burning)? Is the project potentially facing medium-term obsolescence risks? Could technology or business model changes imply a risk of the asset being stranded? Can the private sector offer solutions to mitigate the risk? Failing that, the government might have no choice other than to undertake the project on a public-sector basis.

In the Pakistan case, in the late 1980s and early 1990s, while the environmental and social aspects had already become prominent in the project, climate change was not yet a global issue. The technology chosen (fuel oil-fired steam-cycle generation) was already commercially proven and likely to be relevant throughout the project’s time frame.

Today, in the power sector, with the coming-of-age of renewables, this parameter, combined with the ESG factor, will have higher significance in decision-making, and should at least be in the strong significance category. Similar disruptions are taking place in other sectors too (wireless vs. wired telecoms), air connectivity vs. road in remote and mountainous regions.

Initial private-sector interest: Have sponsors or investors already shown interest in the project or approached the government (including unsolicited offers)? Could these potential sponsors/investors attract special scrutiny and criticism due to their past track record?

In the Pakistan case, the private sector’s response to government was overwhelmingly positive. The challenge was to realize the private sector’s interest as transparently as possible; this was shown by court proceedings in the late 1990s, which exonerated the decision-makers from allegations of corruption and wrongdoing.

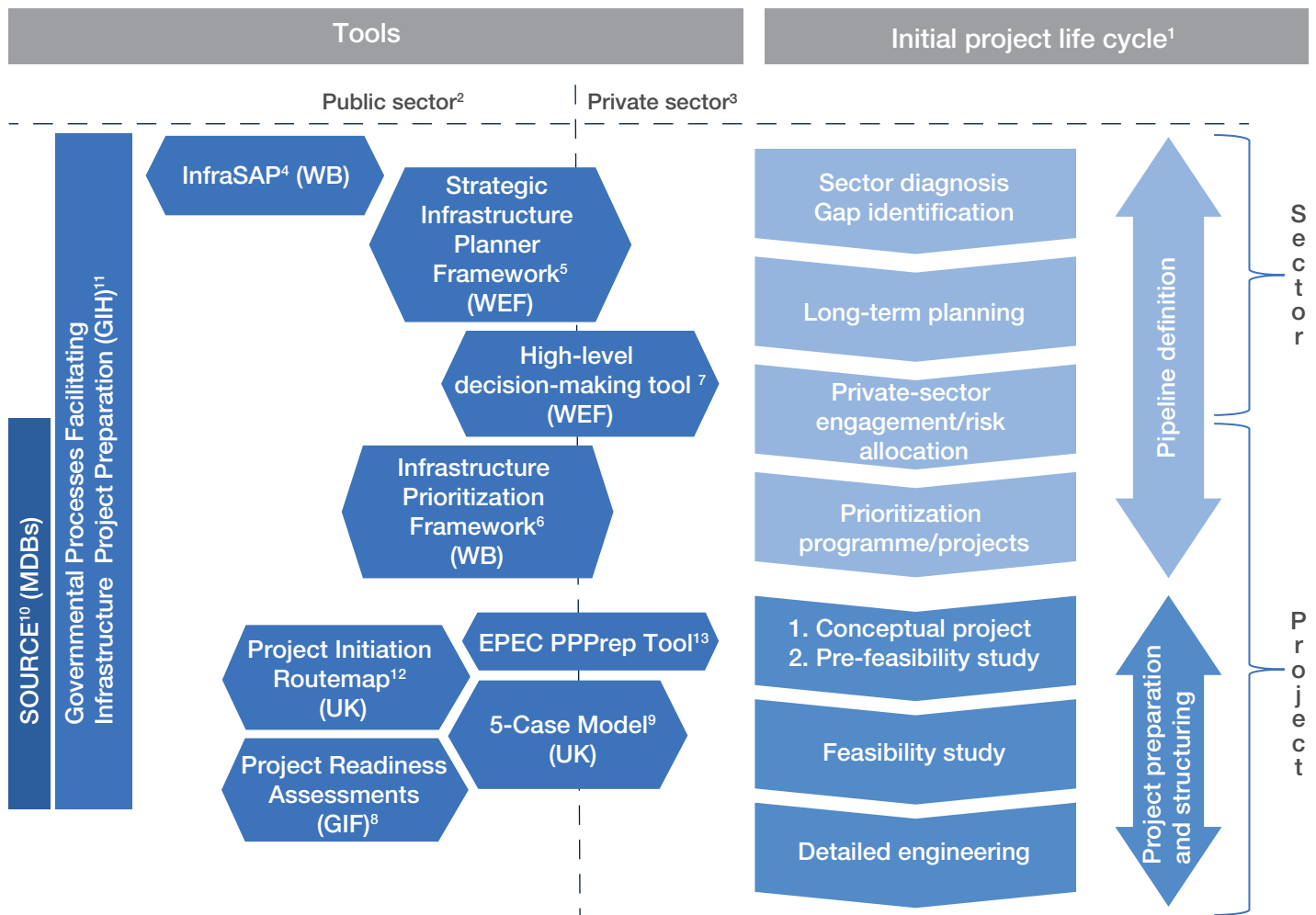
Initial private-sector involvement is likely to be on an unsolicited or sole-source basis. Realizing private-sector involvement in as transparent a manner as possible is a governance challenge. Once the initial private-sector involvement is established, then other forms of solicitation – tenders, auctions, Swiss challenge method etc. – can be established.

Moderately Significant

Appendix

Mapping the landscape

Figure 7: Mapping the landscape – detailed view



Source: Authors

- Notes:
- This graph considers only the early development of projects up until project preparation and structuring and before the procurement process and operation and maintenance phases.
 - Tools designed and used frequently by the public sector with limited access for the private sector.
 - Tools designed to increase dialogue between government and the private sector.
 - Government-oriented with potential to be used by the private sector.
 - Framework used to help governments analyse the current infrastructure investment readiness of a country; it includes private-sector readiness (construction, labour and materials).
 - Multi-criteria prioritization approach that assesses projects with regard to other projects within a sector and against constraints.
 - High-level decision-making tool proposed by the GFC that draws on existing tools and proposes a scheme to fill the gap for decision-makers in terms of better-structured infrastructure programmes and project pipelines, as well as private-sector involvement with an appropriate dialogue process. It allows for a proper distribution of risks between the public and private sectors.
 - Tool that provides decision-makers with critical information on the quality of project preparation and key risks and gaps that must be addressed before key investment and tendering decisions. PRA 1 assesses the project in the pre-feasibility stage and PRA 2 in the feasibility stage. For graphical reasons, only PRA 2 is illustrated.
 - This tool addresses five key questions – is the project: necessary, desirable, achievable, affordable and deliverable? It touches slightly on private-sector involvement through the market readiness to develop the project. It is a multidimensional, iterative and ongoing tool.
 - SOURCE is the multilateral project preparation platform, led and funded by multilateral development banks. It provides project developers with a comprehensive map of all aspects to be considered in order to develop quality and sustainable infrastructure, covering governance, technical, economic, legal, financial, environmental and social issues. It uses sector-specific sets of questions covering all the stages of the project cycle, from project definition to operation and maintenance.
 - Reference tool that aids government involved in infrastructure project preparation built on a detailed country review. It addresses challenges faced by governments in early-stage project preparation up to private-sector engagement.
 - It is a phased and collaborative methodology for aligning the capability of the delivery organizations with the complexity of the delivery environment.
 - The PPP Project Preparation Status Tool is developed by the European PPP Expertise Centre (EPEC), which is part of the European Investment Bank (EIB). The tool is intended for use by the public sector (government, ministries) to help determine the completeness of their PPP project preparation activities and readiness for procurement.

Other tools and tool stocktakes consulted for this report

1. G20/OECD/World Bank Stocktake of Tools and Instruments Related to Infrastructure as an Asset Class
2. Global Infrastructure Basel, SuRe Standard
3. Global Infrastructure Facility Project Readiness Assessment (PRA)
4. Global Infrastructure Hub Knowledge Exchange Tool Database
5. Sustainable Infrastructure Foundation – SOURCE
6. PPP Knowledge Lab

(links as of 20/11/19)

Contributors

World Economic Forum

Global Future Council on Infrastructure

Council Co-chairs

Rashad Kaldany, Partner; Chief Investment Officer, BlueOrange Capital, USA

Anita Marangoly George, Executive Vice-President, Growth Markets, Caisse de dépôt et placement du Québec, Canada

Council Members

Sujoy Bose, Chief Executive Officer, National Investment and Infrastructure Fund, India

Sylvia Coutinho, Chairman, UBS, Brazil

Clemente del Valle, Director, Center for Financial Markets and Sustainable Infrastructure, Universidad de los Andes, Colombia

Alain Ebobissé, Chief Executive Officer, Africa50, Morocco

Fu Jun, Academic Dean and Professor, Institute of South-South Cooperation and Development, Peking University, People's Republic of China

Pierre Guislain, Vice-President, Private Sector, Infrastructure and Industrialization, African Development Bank (AfDB), Abidjan

Vicky Kefalas, Head, Investments and Development Projects Group, Consolidated Contractors Company (CCC), Greece

Mounia Khelifi Touhami, Managing Director – Middle East, Macquarie Infrastructure and Real Assets, Australia

Leslie Warren Maasdorp, Vice-President; Chief Financial Officer, New Development Bank, People's Republic of China

Saadia Madsbjerg, Managing Director, The Rockefeller Foundation, USA

Jean-Patrick Marquet, Core Expert, Working Group on Sustainable Development Goal Compliance, United Nations Economic Commission for Europe (UNECE), Geneva

Joel Moser, Professor of International and Public Affairs, Columbia University, USA

Nadia Musallam, Assistant Undersecretary for Support Services, Ministry of Infrastructure Development, United Arab Emirates

Emmanuelle Nasse Bridier, Independent Adviser, France

Paul Newfield, Chief Investment Officer, H.R.L. Morrison, New Zealand

Lara Poloni, Chief Executive, Europe, Middle East, India and Africa, AECOM, USA

Annalisa Prizzon, Senior Research Fellow, Overseas Development Institute, UK

Jordan Schwartz, Director, Infrastructure Finance, PPPs and Guarantees – World Bank Group, Washington DC

Keisuke Sakamoto, Director, PPP/PFI Promotion Office, Cabinet Office of Japan

Richard Threlfall, Global Head, Infrastructure, KPMG, Netherlands

Council Fellow

Clemens Kielhauser, Postdoctoral Researcher; Lecturer, Infrastructure Management, ETH Zürich, Switzerland

Council Manager

Joseph Losavio, Specialist, Cities, Infrastructure and Urban Services, World Economic Forum, Switzerland

Special Thanks To

Raghuveer Sharma, Director, Clear Crystal Group, former Chief Investment Officer, Infrastructure, IFC, World Bank Group

Helen Martin, Senior PPP Specialist, World Bank Group

Endnotes

- 1 Global Infrastructure Outlook, Global Infrastructure Hub: <https://outlook.gihub.org/> (link as of 10/13/19).
- 2 Vitor Gaspar, David Amaglobeli, Mercedes Garcia-Escribano, Delphine Prady and Mauricio Soto (2019), *Fiscal Policy and Development: Human, Social, and Physical Investments for the SDGs*, Staff Discussion Notes No. 19/03, IMF.
- 3 Marianne Fay, David Martimort and Stephane Straub (2018), *Funding and Financing Infrastructure: The Joint Use of Public and Private Finance (English)*. Policy research working paper; no. WPS 8496. Washington, DC, World Bank Group: <http://documents.worldbank.org/curated/en/176101530040441739/Funding-and-financing-infrastructure-the-joint-use-of-public-and-private-finance> (link as of 10/13/19).
- 4 Judith Tyson (2018), *Private Infrastructure Financing in Developing Countries, Five Challenges, Five Solutions*, ODI Working Paper No. 536.
- 5 Fay et al. (2018).
- 6 Source: Global Infrastructure Hub.
- 7 <https://www.gov.uk/government/publications/the-green-book-appraisal-and-evaluation-in-central-government> (link as of 20/11/19)
- 8 Thorner, P. and Nicholls, P. (2019), *How It Works: The Five Case Model*. Fivecasemodel.co.uk: <http://fivecasemodel.co.uk/the-five-case-model/> (link as of 29/10/19).
- 9 Information provided to the Forum by Financiera de Desarrollo Nacional (FDN)
- 10 Financiera de Desarrollo Nacional (FDN).
- 11 The World Bank: <https://ipi.worldbank.org/> (link as of 7/11/19).
- 12 Eib.org (2019), Welcome to EPEC: <https://www.eib.org/epec/index.htm> (link as of 29/10/19).
- 13 World Bank. 1985. Pakistan - *Fourth Water and Power Development Authority (WAPDA) Power Project (English)*. Washington, DC: World Bank. <http://documents.worldbank.org/curated/en/128251468286502450/Pakistan-Fourth-Water-and-Power-Development-Authority-WAPDA-Power-Project> (link as of 20/11/19)
- 14 World Bank (1985), *Fourth Water and Power Development Authority (WAPDA) Power Project (English)*.
- 15 World Bank Staff Appraisal Report Pakistan: Proposed Expanded Cofinancing Operation to Partially Guarantee up to US\$:140 Million of a Syndicated Commercial Bank Loan of US\$360 Million Equivalent to the Hub Power Company, 29 October 1991: <http://documents.worldbank.org/curated/en/124071468775828012/text/multi-page.txt> (link as of 20/11/19)
- 16 Ibid.
- 17 Ibid.
- 18 World Bank, *Energy and Mining Sector Board Discussion Paper No. 14*, May 2005, "Lessons from the Independent Private Power Experience in Pakistan".
- 19 World Bank Staff Appraisal Report Pakistan, 29 October 1991.



COMMITTED TO
IMPROVING THE STATE
OF THE WORLD

The World Economic Forum, committed to improving the state of the world, is the International Organization for Public-Private Cooperation.

The Forum engages the foremost political, business and other leaders of society to shape global, regional and industry agendas.

World Economic Forum
91–93 route de la Capite
CH-1223 Cologny/Geneva
Switzerland

Tel.: +41 (0) 22 869 1212
Fax: +41 (0) 22 786 2744

contact@weforum.org
www.weforum.org