



KNOWLEDGE SHARING:

Report to the G20 Finance Ministers and Central Bank Governors, April 2016



**Global
Infrastructure
Hub**

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Executive Summary

Knowledge sharing sits at the heart of the Global Infrastructure Hub's mandate as received at the Brisbane Summit on 15-16 November 2014. Developing a knowledge network forms one of the five mandated areas of activity for the GI Hub. Additionally, to effectively deliver on the other four areas of the GI Hub's mandate will require sharing and managing knowledge between infrastructure practitioners.¹

Fostering an effective, active and collaborative community of infrastructure practitioners – brought together virtually or face to face, to learn and share together – will be essential to delivering our mandate.

Reflective of the importance of knowledge sharing for the GI Hub, at Antalya on 15-16 November 2015 G20 Leaders asked the GI Hub to present its report on knowledge sharing to G20 Finance Ministers and Central Bank Governors by April 2016.

The GI Hub's approach to knowledge sharing

The GI Hub's approach to knowledge sharing and management is deeply informed by the extensive external consultation it has already undertaken and by its formal and informal cooperation agreements with multilateral development banks and international organisations. In terms of formal cooperation, memoranda of understanding (MOUs) have already been signed with the OECD, World Bank and Inter-American Development Bank, with an MOU with the Asian Development Bank very close to finalisation. Cooperation with the European Bank for Reconstruction and Development is not based on an MOU, but has also been close, including extensive discussions on the use of social media and agreement to host an event in September targeted at Eastern Europe, the Middle East and Northern Africa.

All GI Hub products and tools have been carefully designed to recognise national differences and are not based on a 'one size fits all' model. A template that works in one country may not work at all in another. The GI Hub products revolve around forming networks, addressing information gaps, improving connectivity between private and public infrastructure market participants and enhancing the efficiency of information available about projects and markets. They focus on providing illustrative examples of good practice, rather than prescriptive templates, and aim to link practitioners with the right information and examples, rather than presenting the GI Hub as the source of all knowledge. The GI Hub's products and tools will leverage user-generated content, incorporate feedback (both written and data driven) into product features, and facilitate conversations and connections between private and public practitioners.

Modern digital tools, social media, and many-to-many communications platforms have made knowledge sharing easier now than ever before. However, breaking down barriers and silos and incentivising public and private users to share experiences and knowledge online is not without its challenges.

A knowledge sharing platform needs to attain a 'critical mass' user base so that users see the advantage and benefits of contributing their own knowledge. This issue of critical mass is the key risk for the GI Hub's knowledge platform.

Knowledge champions and thought leaders from the GI Hub and its public and private sector partners can lead the way, disseminating knowledge that provokes discussion, creates a community and results in self-sustaining and continuous knowledge sharing. The GI Hub's products and partners will aim to enable and instigate this community of best practice and build discussion through social media.

The focus of the GI Hub's knowledge sharing efforts will be broader than dissemination of GI Hub knowledge and tools or aggregation of external knowledge. It will be about co-creation with our partners and international infrastructure practitioners, synthesis of global infrastructure expertise and leading practices, and provision of a user-friendly enabling platform that stimulates, incentivises and crowdsources knowledge. An effective enabling platform

¹ The four other areas of the GI Hub's mandate are: addressing data gaps, developing and applying leading practices, capacity building and a developing a project database

that facilitates information exchange can disrupt the marketplace and have an impact orders of magnitude above the GI Hub's size, by helping the global infrastructure community help itself.

The digital platforms that the GI Hub is developing will supplement and support our traditional networking and communication, not replace it. The GI Hub's conference program, roundtables, consultations and participation in international fora (including the G20, APEC and the G24) are all critical in building these initial knowledge sharing links and in ensuring that our digital platform is connecting with all key external resources and thought leaders.

Our G20 mandate is a particularly valuable asset in building the knowledge network, as it is recognised by stakeholders that the GI Hub ultimately reports the key findings from its work to G20 Finance Ministers and Central Bank Governors.

Key GI Hub deliverables and linkages to knowledge sharing

The GI Hub is now making good progress in delivering on its critical, and cross cutting, knowledge sharing function.

On 25 February 2016, in partnership with the World Economic Forum (WEF) and the Chinese Public Private Partnership Centre, the GI Hub ran a conference with over 100 participants from both G20 and non-G20 countries. As well as Investment and Infrastructure Working Group (IIWG) officials the conference targeted other officials with specific responsibility for financing, procuring and delivering infrastructure projects from both G20 and non-G20 countries. The conference, which was favourably referred to by both the Mexican and Singaporean Finance Ministers in their G20 interventions on 27 February 2016, saw active engagement from the audience on issues including developing the project pipeline, managing risk and utilising assets more efficiently. Events of this nature will form a key pillar of our initial capacity building effort.

This group of officials will be used as the base for the creation of an online PPP community, curated by the Global Infrastructure Hub, to provide a real time forum to build capacity, share lessons and best practice and ask questions. This community will also seek to draw in other government officials, multilateral development banks and international organisations as well as private sector respondents to a recent survey undertaken by the GI Hub (see section below on capability framework).

To better utilise existing infrastructure resources, the Hub has developed and launched in beta form (on 7 April 2016) its 'Field Guide to Infrastructure Resources', which is a searchable, online database with links to existing infrastructure and finance organisations, data sets, reports, toolkits, templates and case studies. The Field Guide will improve the way infrastructure practitioners utilise existing information and prevent international organisations and knowledge providers duplicating efforts. The Field Guide will allow users to comment on resources and to suggest additional resources. It represents the first step in building the GI Hub's knowledge platform and will be closely linked to the platform's social media elements.

The GI Hub is also developing a capability framework. This is planned as an online and interactive tool which measures a country's infrastructure capability compared with best practice in four key areas: investment environment, government capability, private and public financing and infrastructure markets. The framework will combine existing data with other relevant quantitative and qualitative indicators. The capability framework is being designed to provide a mechanism to focus and target efforts to lift country capability, which is a key driver of investment decisions and outcomes. The tool will also allow countries to measure progress over time, to identify the benefits of policy reforms and help match countries and practitioners in need of priority policy assistance with those best able to help.

Based on private sector advice as to the information that is of most value to them, the global project pipeline will provide a database in a standardised format on which the public sector can list projects. The private sector will be able to sort these projects by criteria such as region, country, sector or project stage to help investors distinguish pipelines from pipedreams. This database will not replace country level pipeline information, where it is available, but it will help countries present information in a format that is market relevant and to gain market profile and feedback. As part of the broader GI Hub knowledge platform, database users will be able to quickly find information including country contacts and capability assessments.

Initial work on data gaps will improve the information base on returns from infrastructure investments and provide updated estimates of infrastructure needs. The work on returns from infrastructure investment is critical to both attracting further private sector finance and to broadening the asset types and countries to which this financing flows. To ensure maximum quality and reach for this research, the GI Hub is partnering with an existing expert in the field with strong connections to the investment community (EDHEC Research Institute).

The proposed work assessing the likely dimensions of infrastructure needs will be presented in the form of a range of scenarios, rather than point estimates. It will assist governments in planning policy reforms, framing of project selection and marketing of infrastructure investment opportunities. The information will be delivered on the GI Hub knowledge platform via a user friendly interactive tool capable of generating 'heat maps' and other infographics to assist policy planning.

The GI Hub mandate on leading practices is focused on developing and disseminating voluntary standards and codes to enhance procurement and delivery of quality infrastructure projects. It will recognise national differences and avoid a 'one size fits all' model.

The first initiative is focused on addressing industry feedback on the need for improved understanding of risk allocation principles. It will explicitly deal with risk allocation arrangements applicable in countries with distinct legal systems and varying levels of experience with PPP transactions. It will be developed with input from industry workshops co-hosted with the Government of Singapore and the OECD, being held on 25 April and May respectively. The various sample matrices will be presented as illustrative examples of good practices, as opposed to prescriptive templates. To assist with the broad dissemination of this work, a web based interactive interface and discussion blog will be developed on the GI Hub knowledge platform.

Introduction

Knowledge sharing sits at the heart of the Global Infrastructure Hub's mandate. The G20 Leaders' Communique from the 2014 Brisbane Summit says 'the Hub will contribute to developing a knowledge sharing platform and network between governments, the private sector, development banks and international organisations'. At the Antalya summit on 15-16 November 2016 G20 Leaders asked the GI Hub to present its report on knowledge sharing to G20 Finance Ministers and Central Bank Governors by April 2016.

As outlined in the attachment to the Leaders' Communique at the Brisbane Summit, developing a knowledge network forms one of the five mandated areas of activity for the GI Hub. However, without an effective knowledge sharing network and platform, the GI Hub will be unable to effectively progress and disseminate its other mandated work on data gaps, leading practices, capability building and development of a consolidated project database.

Accordingly, an effective, active and collaborative community of infrastructure practitioners – brought together virtually and face to face, to learn and share together – will be essential to delivering our mandate.

This knowledge sharing report first sets out the GI Hub's approach to knowledge management and systems. It then sets out more detail on each element of the GI Hub's work program, including how knowledge sharing elements are being addressed and the roadmap ahead for the next 12 months.

Knowledge Management and the GI Hub's Knowledge Sharing Platform

Knowledge management defined

Knowledge management comprises a range of practices used to identify, create, represent, distribute and enable adoption of insights and experiences. Knowledge management is essentially about getting the right knowledge to the right person at the right time. In the case of the GI Hub, it means the systematic management and dissemination of infrastructure knowledge assets for the purpose of providing global infrastructure markets with increased efficiency and transparency.

Knowledge management systems refer to any kind of ICT tools which enable and facilitate information management. This is generally in the form of IT systems that store and retrieve knowledge, improve collaboration, locate knowledge sources, mine repositories for hidden knowledge, capture and use knowledge, or in some other way enhance the knowledge management process.

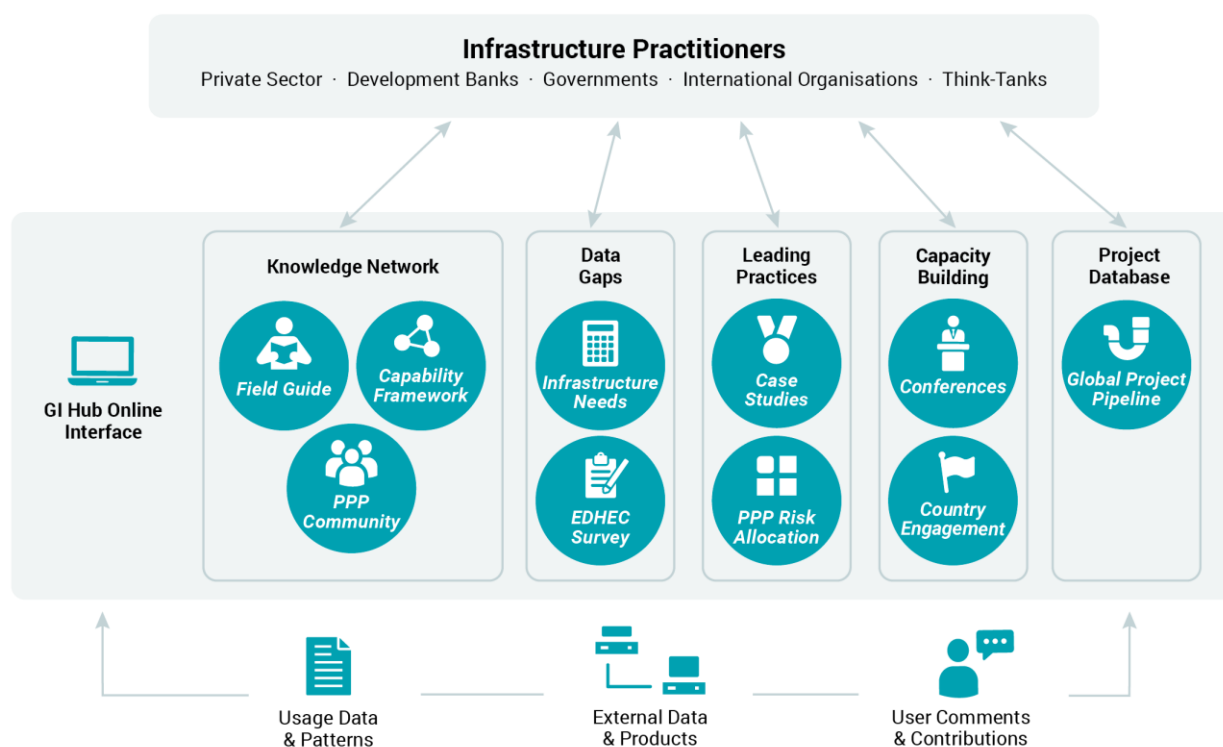
The GI Hub's knowledge platform

The GI Hub's knowledge platform will provide for the integrated on-line delivery of all GI Hub tools and resources, covering all elements of the GI Hub's mandate and allowing easy access to a wide range of externally generated resources (Figure 1). These external resources will include materials from governments, the private sector, infrastructure practitioners, international organisations and the multilateral development banks (a summary of MDB knowledge sharing activities, joint facilities and projects is at [Attachment A](#)).

Given the synergies among Hub products, they are well suited to be integrated under a common knowledge management platform, with an easily accessible user interface that can manage considerable pools of dynamic data and improve over time based on user usage patterns.

The knowledge platform will also provide a key source of on-line connection to and between governments, the private sector, development banks and international organisations.

Figure 1: GI Hub Knowledge Platform



The knowledge platform will be built gradually, in parallel with development of key GI Hub deliverables, and will be available online progressively during calendar years 2016 and 2017. It will provide access to, and direct users to, external data and products and will store and display data on country level capability, project pipelines, leading practices, infrastructure needs and the field guide. It will connect users and assist them to find best practice information.

The platform will also provide an interactive, social media style tool that will allow stakeholders to engage in peer-to-peer sharing of information and learning. With the GI Hub's ability to tap into a wide range of stakeholders, the platform could fill in gaps not yet covered by existing, for profit, peer-to-peer platforms, such as the Global ViP (www.cg-la.com/advisory/gvip).

The platform will be available in mobile and web based formats and will draw on usage patterns of users to optimise presentation of information and to undertake additional data analysis.

Capability Framework

The Capability Framework will assess the extent of development, or maturity, of a country's infrastructure market and benchmark existing (country specific) capability against best practice. The GI Hub is identifying global best practices and aims to benchmark existing (country specific) capability against those. The divergences will indicate the priority areas for policy reform or intervention, given an agreed objective to increase the pipeline of projects and attract more private capital.

Why is the Capability Framework necessary? What problem will it solve? What are the benefits?

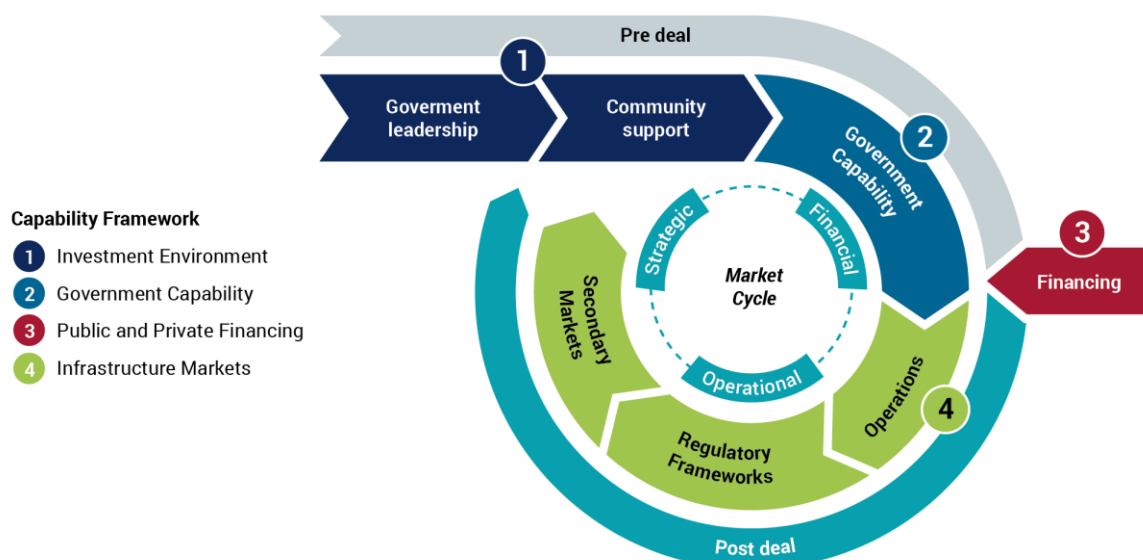
The GI Hub recognises that a country's infrastructure capability is a major driver of infrastructure investment decisions and outcomes. While there are some infrastructure investors that can take positions on projects in less mature country markets, institutional investors generally develop country specific strategies, rather than project specific.

Infrastructure capability is defined as the capacity to develop viable, high quality infrastructure projects, and is driven by a broad variety of factors. These factors can include political, economic or business conditions, governance and institutional capabilities and depth of financial markets. While this is a broad set of factors, they all contribute to varying degrees.

Currently infrastructure capability varies significantly from country to country. The GI Hub believes this is affecting the quality of infrastructure outcomes and investment activity. The Capability Framework will facilitate the improvement of infrastructure capabilities at the country level. The Capability Framework will be implemented as a GI Hub online and interactive tool that ranks a country's infrastructure capability compared with best practice at each stage of infrastructure planning and delivery. It will allow users to identify the key enablers that lead to good infrastructure outcomes.

The proposed framework segments a country's infrastructure market in four key areas: investment environment, government capability, private and public financing and infrastructure markets. The key goal of the Capability Framework is to define the criteria required to create investable infrastructure markets that are aligned to private sector capital.

Creating investable infrastructure markets that are aligned to private sector capital



Existing data

The concept of a global infrastructure scorecard is not new. The multilateral development banks (MDBs) and other international organisations have been strong supporters of this type of tool for some time. Infrascope, for example, has been supported by the MDBs on a region by region basis since 2009, through the MDBs contracting the Economist Intelligence Unit (EIU) to develop a 'PPP country readiness' index and scoring methodology. However, these Infrascope studies have been regional in focus, with results not comparable across regions. The EIU has itself noted that 'a single, authoritative and current source of analysis and information on infrastructure capability across both developed and emerging economies is missing.'²

The GI Hub has assessed the range of infrastructure indices available in the market and analysed their strengths and weaknesses. Some offerings, such as sovereign credit ratings, are comprehensive in terms of the market dimensions captured but are not specific to infrastructure investment and lack country depth. Other offerings have more country depth on infrastructure elements but lack consistent, global country coverage and breadth in terms of market dimensions covered. No existing index accurately correlates with the level of infrastructure investment in a country – hence the need for a robustly defined, infrastructure specific metric such as the GI Hub's Capability Framework.

Overall, the main issues with the existing range of products are a combination of them not being sufficiently global and/or not having enough in-depth infrastructure specific content. Feedback from the private sector, including at a roundtable in Sydney and via an investor survey (both described below) and one on one meetings, has also supported the need for a global scorecard that could be used to measure a country's progress over time in improving its infrastructure market. Taking all these factors into account, the GI Hub feels that there is scope to better capture the reality of the infrastructure ecosystem across the infrastructure investment life cycle.

The Capability Framework will combine existing data with other relevant quantitative and qualitative indicators so that the combined picture of an infrastructure market is accurate, robust and useful to both private and public sectors. As such, the framework is consistent with the knowledge sharing mandate of the GI Hub to find existing sources of information, bring them together in ways that will be more effective and efficient in developing infrastructure markets, and improve the pipeline of quality, bankable projects. [Attachment B](#) provides further detail about the Capability Framework metrics and data sources.

How users will access the information

The Capability Framework country score will be accessed through an interactive infrastructure benchmarking tool on the GI Hub's website that is:

- Informative – data and information contained in the tool provides users with useful information.
- Meaningful – use of the data should deliver value to at least one party.
- Robust – should be based on validated data, able to withstand international scrutiny.
- Updateable – possible to obtain updated data and information on a periodic basis, such as annually, so as to reproduce the country scoring or rankings within the tool.
- Adaptable – the infrastructure benchmarking tool, and the inputs used for the tool, should be able to be relatively easily modified in the future.
- Connected – integrated with the GI Hub's knowledge management platform.

The infrastructure benchmarking tool will be available on the Hub's website and primarily aimed at:

- Project developers – government agencies or departments involved in infrastructure project development.
- Policy makers – government, independent think-tanks or lobby bodies involved in policy reform or formation.

² Economist Intelligence Unit, March 2016

- Investors and their advisors – organisations or individuals seeking infrastructure investment opportunities and their advisors.

Users of the benchmarking tool should be able to understand each country's relative infrastructure capability in aggregate. Users should be able to interrogate the justification for the infrastructure capability to understand risks and opportunities.

Progress update

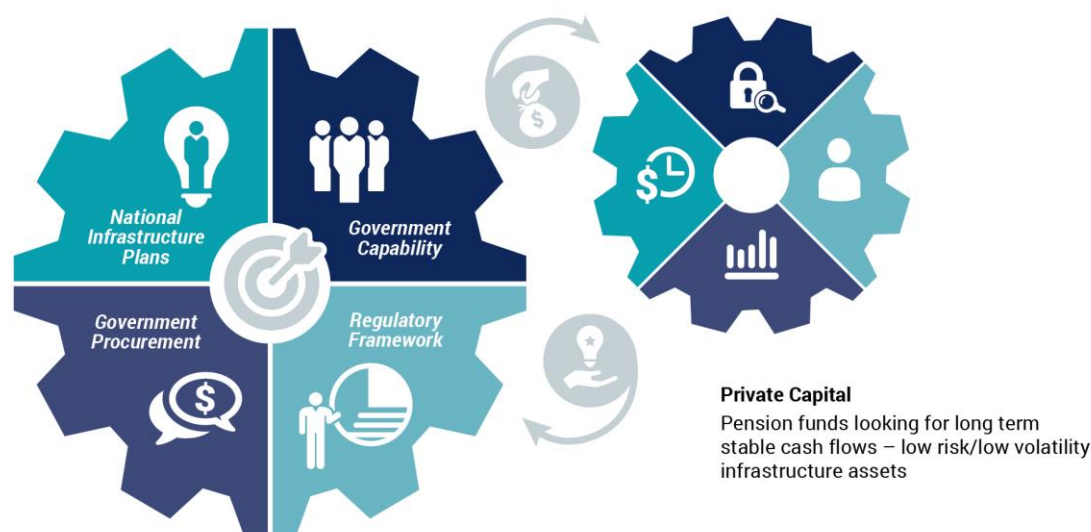
The key elements of the Capability Framework were tested with a group of senior infrastructure leaders in Sydney at a roundtable in January 2016. The initial group included a mix of business leaders, infrastructure investors (Pacific Partnerships), infrastructure investment managers (Queensland Investment Corporation), bankers (Macquarie, Royal Bank of Canada) and global advisory firms (KPMG, Baker & McKenzie). Their views supported the need for a global scorecard that could be used to measure progress over time.

For more regions to become mature markets, public and private sectors need to align

With the

Public Investment

Government indebtedness issues are limiting investment available for greenfield assets



endorsement and feedback we received from the initial roundtable, we finalised the design of an electronic private sector survey that covered a sample of G20 and non-G20 countries. The questionnaire sought input on perceptions of risk across the four key areas and associated elements of the Capability Framework for a country's infrastructure market.

The analysis of the survey data is ongoing and a draft report of the survey will be available at the end of April. Initial impressions from the data suggest the Capability Framework covers the key criteria for determining the infrastructure investment environment in a country. The survey has thus validated to a significant extent the building blocks and the elements identified by the GI Hub in its Capability Framework.

The survey is a meaningful input for the next stage of development of the Capability Framework, which will look at confirming the indicators to be measured for each key element and the metrics that will be used to populate those (see Table 1 below and [Attachment B](#) for further information). For this stage we are requesting proposals from the market to finalise and populate the scorecard and develop the online tool. A successful bidder is expected to be selected during April.

Table 1: Capability Framework Building Blocks and Elements

Building Block	Description	Elements of the Building Block
Environment	The attractiveness of the investment environment	<ul style="list-style-type: none"> • Stability of macro-economic environment • Rule of law • Currency volatility and convertibility • Public support for infrastructure investment • Political commitment to infrastructure funding • Taxation and capital controls • Corruption
Government capability	The capability of government planning and government processes and practices	<ul style="list-style-type: none"> • Appropriate fiscal and budget monitoring • Government endorsed national infrastructure plan • Effectiveness of government in project selection, project preparation, procurement and implementation • Government's ability to deliver environmental permits and land acquisitions • Well-equipped dedicated PPP units with clear mandates and lines of accountability • Effectiveness of coordination of responsibilities with other government units (including sub-national) • Degree of standardisation of contractual frameworks
Finance availability	The availability of finance from the public and private sector	<ul style="list-style-type: none"> • Constraints in local financial markets • Availability of development banks and international financial institutions funding and credit enhancing products • Liquidity of infrastructure markets • Availability of sustainable finance (green bonds, development impact bonds) • Political bipartisan support for private financing in infrastructure investment • Availability of liquidity in foreign exchange and interest rate swap markets
Market state	The state of the infrastructure market, including regulation, structure and operating assets	<ul style="list-style-type: none"> • Degree of stability, predictability and transparency of regulatory frameworks • Certainty of taxation regime • Availability of performance data for operating assets • Liquidity of local infrastructure secondary markets • Uniformity of financial instruments • Corporate governance • Efficiency of competition agencies • State-owned enterprises market share

Global Project Pipeline

The mandate

The 2014 Brisbane G20 Leaders' Summit tasked the Global Infrastructure Hub 'to ensure that there is a comprehensive, open source project pipeline database, connected to national and multilateral development bank databases, to help match potential investors with projects'.

The need for a project pipeline

There is a recognised desire from the private sector to be able to access a single consolidated global pipeline of projects (global pipeline). Investors generally see existing country level pipeline information as of mixed quality.

The main attributes investors are seeking in a project pipeline database are comparability of projects across countries, advance visibility of upcoming projects (to allow them to properly prepare) and clarity on how projects are progressing from project conception to commencement of operations, especially in the pre-procurement phases.

A pipeline that addresses these criteria will help investors understand what stage of development projects are at and what underlying information supports the projects, so as to be able to determine where to focus attention and to deploy skills and capital between opportunities.

A global pipeline database will provide the platform for public sector authorities to produce consistent and comparable information about projects in their country, allowing countries to present and effectively market their projects to the private sector.

Research examining existing pipeline information at the country level and among multilateral development banks indicates significant variability in the information disclosed by the public sector. Many countries have started to prepare national or sub-national infrastructure plans, which provide detail on the infrastructure priorities. In some instances these plans are developed into project pipelines. Often the infrastructure plans, priority lists and project lists are interchangeably referred to as 'pipelines'. However, these all differ in terms of structure and content. Further, the relevance and usefulness of these pipelines to the private sector is often limited, according to the private sector; the information tends to be either too preliminary, too high level to allow a proper understanding of how meaningful the opportunity is for the private sector, or post-deal rather than pre-deal.

In addition to country pipelines, the European Union is developing a regional pipeline and Asia-Pacific Economic Cooperation (APEC) and the Association of Southeast Asian Nations (ASEAN) are reportedly also considering developing versions of project pipelines.

The disaggregated, limited and inconsistent global pipeline information makes it difficult for the private sector to have a well-informed view of the infrastructure opportunities across multiple jurisdictions. It also makes it difficult to make like-for-like comparisons across markets and countries, contributing to inefficient infrastructure markets and impacting on the availability of financing globally.

The GI Hub's Global Pipeline Database (Global Pipeline) will be project specific, but will not be a procurement tool and will not replace procurement or tender processes. Investors wishing to participate in a specific project will need to register with governments and obtain project specific information in the same way they currently do today. The Global Pipeline will contain links to project specific websites and country level databases.

The Global Pipeline will collect and present as much information as governments are willing to provide in a single open source database. It should be particularly valuable for countries seeking to build a profile with the investment community, allowing them to be guided as to the information to provide in listing projects and recording their progress. Through a market tested set of requirements for its global pipeline, which will be open to listings from all G20 and non-G20 countries, the GI Hub can play a global leadership role.

The Global Pipeline in practice

The Global Pipeline will differ from current paid subscription, self-labelled 'pipelines' offered by industry research publications (e.g. Infrastructure Journal, Infra-Deals). The information in these publications is predominantly prepared by research associates based on publicly available information from a variety of sources.

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

1. it will rely on information supplied directly by government bodies/sponsors who will take responsibility for the integrity and accuracy of information; and
2. it will be designed to address (as far as practicable) the desires of the private sector.

The Global Pipeline will cover government projects, both greenfield and brownfield. It will not include solely private sector to private sector transactions.

The Global Pipeline will be an intuitive tool which will allow users to access and search information by multi-field criteria such as region, country, sector or sub-sector, project stage and possibly a number of other indicators such as project value.

The Global Pipeline will have standardised inputs, formulated with investor input, to assist comparisons across countries and projects. The relevant public sector authority will be responsible for putting the information into the Pipeline and ensuring the information in the Pipeline remains accurate and up to date. As such, knowledge sharing by public sector authorities will be integral to the success of the Pipeline.

Various project preparation facilities, as well as other sources of externally provided capacity building, may assist particular governments with training personnel resources to be able to properly lodge and update project information into the Global Pipeline (see section in [Attachment A](#) on project preparation facilities for summary information and links). It is important to note though that the Global Pipeline itself will not be the tool for ensuring that governments prepare projects thoroughly. However, it will reveal to the private sector what work has been done by governments through the information that is shared on the Pipeline.

To assist users in identifying the status of a particular project, the Global Pipeline will segregate projects into a number of discrete stages. There are likely to include key milestones such as:

- Early stage / project identification
- Project investigation
- Project feasibility / business case
- Levels of government approval
- Procurement
- Financial close
- Construction
- Operations

At each stage the Global Pipeline will contain sufficient relevant information to allow users to easily understand what activities have or have not been undertaken to that point. It will also track the time that a project has been at each stage. Collectively, this information will help investors to prioritise their efforts across particular market segments and projects.

As the pipeline data matures, the GI Hub will also utilise the data that is put into the pipeline. Analysis of the data will be used to identify and illustrate trends to assist industry participants and users in their decision making. Data analysis should also reveal the relative rate of progress of projects and where and at what stage projects are delayed.

The users of a project pipeline

The primary users and beneficiaries of the Global Pipeline are expected to be:

- Public sector – appropriate government ministers, infrastructure departments, treasuries/finance ministries, PPP units and relevant government agencies (e.g. transport departments). The Pipeline will allow these parties to broadcast their information widely in a market endorsed, user-friendly format and to facilitate interaction with the private sector.
- Private sector – equity and debt investors, construction companies, concession and operations organisations, various consultants and advisors. The Global Pipeline will allow these parties to plan and focus their activities based on clear, current and transparent information and to make informed assessments of suitable investment or development opportunities.

Marketing / pipeline development

Consultation with the private sector on the content, structure and usability of the Global Pipeline is currently taking place. Input from the private sector, as the targeted users of the Pipeline, will be essential to developing a product that is valued and used by the market. The clear view of the market is that the current level of project information in the pre-procurement stage is not detailed enough to allow it to properly determine how prospective opportunities are.

Feedback from the private sector will inform a working draft of the Pipeline structure which will then be discussed with governments, including via the IIWG, to ensure that the final form of the Global Pipeline will be generally acceptable to both the public and private sectors.

The final form of the Pipeline, while being responsive to government views, will need as much as possible to address private sector requirements. The dual risks for the development of the Global Pipeline are either creating a database that the private sector does not utilise as it does not provide pertinent information, or a structure on which governments will not be willing to list projects as it is too complicated.

The key to the success of the Global Pipeline will be to have a number of 'early adopter' governments; governments pre-committed to lodging projects onto the Pipeline once it is operational so that activity and interest can be generated. We will also consider using regional forums, such as APEC and ASEAN, to secure additional participation in the Global Pipeline from non-G20 countries. A groundswell of market support and the momentum generated by early activity would then allow the Pipeline to be actively marketed to other potential users, so incremental growth in government users would occur over time.

In this regard, some governments have already approached GI Hub about being able to lodge their projects on the Pipeline.

By providing information that the private sector is looking for and reducing barriers to private investment, the Global Pipeline should create incentives for governments to list projects, particularly among jurisdictions still developing a track record in financing public-private partnerships.

Further, it is also expected that wherever possible G20 countries will support this important initiative of the G20 by using the Pipeline.

Collaboration with the International Infrastructure Support System

The GI Hub is considering a partnership with the recently launched International Infrastructure Support System (IISS). IISS is an online, secure, multi-user project development tool to promote and facilitate high quality and efficient global project delivery, accessible to the public and private sector. IISS is a collaborative effort with involvement from the African Development Bank, Asian Development Bank, Brazilian Development Bank, Development Bank of Southern Africa, European Bank for Reconstruction and Development, Inter-American Development Bank, and the World Bank Group.

GI Hub's contemplated partnership with IISS would focus on the build-out of the Global Pipeline.

IISS and the Global Pipeline can be complementary offerings to the infrastructure market, potentially allowing a comprehensive project preparation tool to be linked to a broad project database, accessed through a single platform. Both IISS and the Global Pipeline will require the cooperation of and provision of information by government project sponsors and so having these two products linked together should be both efficient and beneficial for the public sector.

Next steps

An indicative program of upcoming activities is set out in the table below.

Date	Activity
March / April 2016	Consultation with private sector parties on proposed Pipeline content <ul style="list-style-type: none">• Private sector associations – investors, construction companies• One on one discussions
28 April 2016	<ul style="list-style-type: none">• Status report briefing to IIWG covering key findings from private sector consultation, proposed structure of pipeline and governance.
April / May 2016	<ul style="list-style-type: none">• Soft (concept) marketing to selected governments, following feedback from private sector
May – December 2016	<ul style="list-style-type: none">• Technological development of Pipeline• Operational testing• Marketing and consultation with governments• Operational commencement

Data Gaps

Data on the state and performance of infrastructure assets is neither comprehensive nor consistent. The public and private sectors have indicated that better data can contribute to improving global infrastructure investment outcomes.

From an initial assessment of existing infrastructure data, the GI Hub identified a list of data-related issues that have an impact on infrastructure investment outcomes. From that list of, the GI Hub then identified a range of data gaps that, if addressed, are likely to have a positive impact on infrastructure investment outcomes.

Each data gap and issue was filtered using the GI Hub's expertise in the infrastructure industry and investment to focus on a short-list of specific data related issues. The GI Hub focused on the data gaps that, when addressed, are most likely to have a high positive impact on infrastructure investment outcomes. These 'high value' issues are the focus of the GI Hub's data related work.

Addressing gaps in data on the performance of infrastructure as an asset class, and the extent of infrastructure needs for various sectors and geographies, are the GI Hub's current priorities.

Performance of infrastructure as an asset class – EDHEC investor survey joint project

The first project in the data gaps work-stream is contributing data that helps reveal the performance of infrastructure as an asset class. A key piece of information that can unlock further private sector capital in infrastructure is investors' perceptions and expectations in relation to risks and returns, particularly in developing and emerging markets. Data on the performance of infrastructure as an asset class is considered key to understanding investors' perceptions and expectations of risks and returns.

Further, data on the performance of infrastructure as an asset class is important because it:

- influences an investor's decision to invest in infrastructure;
- reveals to project developers and policy makers how to structure projects with risk and return characteristics that better match investors' needs; and
- identifies important asset characteristics that drive private sector decisions to invest in infrastructure.

We found that EDHEC Business School Asia-Pacific (EDHEC) had concurrently identified a similar data need. Instead of duplicating such effort, the GI Hub is partnering with EDHEC to:

- undertake a comprehensive global survey of 200 to 300 senior institutional investors and infrastructure managers; and
- jointly release research about infrastructure investors' perceptions and expectations.

Scope of work

EDHEC's survey targets pension funds, hybrids, insurers, asset and wealth managers and sovereign wealth funds from around the world. The survey will address the different dimensions of an investor's decision to invest in infrastructure, in terms of asset allocation and asset-liability management, for a large and well-diversified investment. Importantly, this survey will cover investor perceptions and expectations on infrastructure in developing and emerging markets.

Outputs from EDHEC's analysis will include:



Joint EDHEC – GI Hub report



EDHECinfra newsletter



Press release in global financial newspapers and professional publications

Current status

EDHEC is currently in the middle of gathering survey results. The GI Hub is intending to launch the final report by mid-year.

Infrastructure needs analysis project

The second project is estimating the current and future global, regional and sectoral infrastructure needs, including country level analysis.

Within infrastructure markets current and future infrastructure investment needs were identified as key data gaps in public and private sector consultations. This data, particularly on a forward looking basis, is important to:

- GI Hub and the G20 – it will help indicate areas with the greatest infrastructure need, and will help focus the GI Hub's work on those regions that will benefit the most from the work.
 - The data is also likely to assist in the GI Hub's other projects, such as the Capability Framework and the Global Pipeline.
- Government – it can assist with the forward planning of potential policy reforms, the framing of project selection and pipeline identification and the marketing of infrastructure opportunities with the private sector.
- Private sector – it can be used directly or indirectly to identify areas with investment opportunities.

Currently there is a wide array of data from a variety of sources that can be aggregated to identify infrastructure need. Organisations, such as McKinsey & Company, PwC, Oxford Economics and the OECD have, in various forms, produced forecasts of infrastructure investment spend. For example, these forecasts include:

- Sectoral analysis – McKinsey & Company estimates by 2030 energy infrastructure will have the greatest infrastructure need and funding gap.
- Country infrastructure spend – PwC and Oxford Economics estimate that emerging markets currently spend more in infrastructure than advanced economies and will continue to do so, driven by countries such as China and India.
- Country infrastructure need – the WEF estimates the amount of infrastructure a country needs by 2025 to sustain growth, but only for a range of countries including Poland and India.

These forecasts have largely relied on a combination of well-known databases from organisations such as the Private Participation in Infrastructure (PPI) database of the Public-Private Infrastructure Advisory Facility (PPIAF), the International Transport Forum within the OECD, International Energy Agency, Global Water Institute and the International Monetary Fund as well as national accounts for historic spend levels. As a consequence, the priority task in the infrastructure needs analysis is to update and extend existing analysis including by applying methodologies that account for local contexts, including stage of development and infrastructure need, as compared with likely future economic growth.

Scope of work

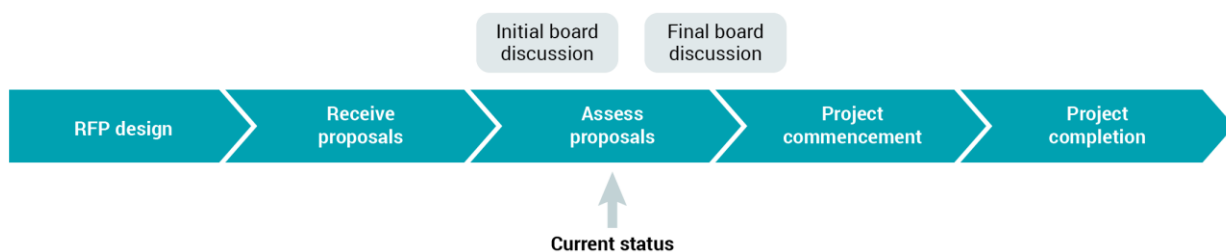
The outputs that are expected to be produced include:

- a report and indication on the potential infrastructure need at the global, regional and sectoral level;
- country level analysis that covers:
 - country level context, such as stage of economic development;
 - different GDP growth situations;
 - achievement of sustainable development goals to various potential extents;
 - various infrastructure investment levels;
- data and models used to produce the above mentioned report; and
- a user-friendly and interactive tool that makes the above mentioned data available.

The interactive tool will be on the GI Hub's website, and will allow potential users to understand infrastructure needs for various scenarios. The results will outline a range of scenarios for infrastructure need and provide a useful tool for policy makers and infrastructure practitioners to anticipate and better plan for future needs.

Current status

Figure 2 – current status of the infrastructure needs analysis project



We are currently in the final stages of assessing a preferred candidate, and hope to engage the preferred candidate soon.

Impact on infrastructure markets

We expect that information from both projects, in themselves and when combined with other GI Hub initiatives, is likely to have a material impact on the infrastructure market. We anticipate potential impacts to include:

- helping match investors with a specific infrastructure sector need to countries with a large infrastructure deficit;
- identify for countries the potential to access affordable private finance, including by revealing information about how investors perceive and price risks; and
- align projects with risk-return preferences from the private sector.

Leading Practices

Overview

The GI Hub has made significant progress with its Leading Practices mandate. The approach being taken by the GI Hub, consistent with that set out in the GI Hub Business Plan, is to develop and disseminate voluntary standards and codes to enhance the procurement and implementation of quality infrastructure. The various initiatives are being taken on a collaborative basis, with the GI Hub working closely with the multilateral banks and other international organisations. The various leading practices developed will endeavour to recognise national differences and avoid a 'one size fits all' model.

The annotated PPP risk allocation matrices initiative

The first Leading Practices initiative is focused on a problem that has been identified by numerous industry stakeholders at a variety of international conferences: namely the lack of understanding which many governments – particularly those in developing countries – have in regard to the basic risk allocation principles which underpin successful Public-Private Partnership (PPP) transactions. Against that background, the objective of this initiative is to provide guidance to countries, including both members and non-members of the G20, wishing to develop a program of PPP transactions. The primary focus is on those countries with limited or no prior experience with PPPs, and the desired outcome of the initiative is that such countries will have a useful reference guide to assist with their understanding of typical PPP risk allocation arrangements. This 'upstream' work will in turn assist in the development in those countries of a pipeline of robust PPP projects.

This initiative is being undertaken in collaboration with the World Bank Group, which is simultaneously engaged with the preparation of an updated report on the related topic of recommended PPP contractual provisions (building on the report which the World Bank Group submitted to the G20 in 2015). In addition, as outlined further below the GI Hub is working closely on this initiative with the Monetary Authority of Singapore and the OECD.

A competitive procurement process was undertaken to select a major international law firm, Norton Rose Fulbright, to prepare the forthcoming *Report on Annotated PPP Risk Allocation Matrices, 2016 Edition* (the Report). The Report will contain sample matrices showing the allocation of risks as between the public and private sectors in specified PPP transactions, along with related information on mitigative measures and typical government support arrangements. Separate matrices are to be developed for eleven designated types of projects in various sectors, and each matrix is to be accompanied by extensive annotations, explaining the rationale for the allocations, mitigative measures and government support arrangements, and describing alternative measures for countries with differing levels of PPP market maturity.

The sample matrices are designed to provide examples of good practice, as distinct from a prescriptive or mandatory template or 'cookie cutter'. They will also explicitly deal with risk allocation arrangements that may be applicable across countries with differing legal systems or levels of experience with PPP transactions. Furthermore, the various sample matrices will be presented as illustrative examples of good practices as opposed to prescriptive templates.

Two international workshops will be held to discuss draft versions of the Report prior to its finalisation. The Monetary Authority of Singapore has agreed to host and co-sponsor the first of these workshops, to be held in Singapore on 25 April 2016 in conjunction with the G20 IIMG meeting being held that week. The OECD has agreed to host and co-sponsor the second of these workshops, to be held in Paris on or about 30 May 2016 in conjunction with a meeting of the OECD G20 taskforce on institutional investors and long term investment.

The final version of the Report, which will take into account comments received at the two workshops, is to be prepared by 15 June 2016. The document will then be presented by the GI Hub to the G20 IIMG for submission to the G20 Finance Ministers and Central Bank Governors meeting on 23-24 July 2016 in Chengdu.

The eleven sample risk matrices will be organised on a sectoral basis, as follows:

- for the section of the Report dealing with the transport sector, the consultant will prepare annotated risk allocation matrices for the following illustrative projects:
 - a new toll road project, developed as a Design, Build, Finance and Operate (DBFO) transaction;
 - a new airport project, again developed as a DBFO transaction;
 - a new municipal light rail project, again developed as a DBFO transaction; and
 - an intercity railway project involving an existing railway, developed as a Rehabilitate-Operate-Transfer (ROT) transaction.
- for the section of the Report dealing with the energy sector, the consultant will prepare annotated risk allocation matrices for the following illustrative projects:
 - a new photovoltaic power generation project, developed as a Build-Own-Operate (BOO) transaction, where the power is being sold to a state-owned single buyer;
 - a new large-scale (greater than 100 MW) hydroelectric power project, developed as a Build-Own-Operate-Transfer (BOOT) transaction, again where the power is being sold to a state-owned single buyer;
 - a new power transmission project, developed as a BOOT transaction; and
 - a natural gas distribution project involving an existing distribution for an existing utility, developed as a ROT transaction, in a situation where the wholesale supplier of natural gas is a state-owned entity and where natural gas tariffs are set by a regulator.
- for the section of the Report dealing with the water and sanitation sectors, the consultant will prepare annotated risk allocation matrices for the following illustrative projects:
 - a new water desalination project, developed as a BOOT transaction, where the desalinated water is being sold to a state-owned single buyer;
 - a water distribution project involving an existing distribution for an existing utility, developed as a ROT transaction, in a situation where the wholesale supplier of water is a state-owned entity and where water tariffs are set under the terms of the concession agreement; and
 - a solid waste collection, disposal, landfill and recycling project, developed as a Build-Operate-Transfer transaction.

One or two additional matrices may be commissioned, in light of the discussions at the Singapore workshop and other feedback from interested stakeholders.

The consultant has already prepared an initial template for the matrices, based on a sample municipal light rail project. The template uses a spreadsheet format and the plan is to develop a web-based interactive interface, which will give government officials and other users the ability to interrogate the matrices, so as to have an enhanced understanding of the risk allocation principles that would be relevant for potential projects in their respective countries.

Figure 3: extract from the initial draft template for the annotated PPP risk allocation matrices initiative

Risk		Allocation			Mitigation	Government Support Arrangements	Market Comparison	
Type	Description	Public	Private	Rationale	Measures	Issues	Developed Market	Emerging Market
Land purchase and site risk	The risk of identification of the infrastructure corridor and associated community engagement, acquiring title to the land to be used for a project, the selection of that site, and the geophysical conditions of that site	X		<p>The Contracting Authority bears the principal risk as it is best placed to select and acquire the required land interest for the project.</p> <p>The Contracting Authority would generally be responsible for providing a "clean" site, with no restrictive land title issues, and existing utilities and contamination either dealt with or fully surveyed or warranted and disclosed to the Private Partner.</p> <p>Typically, the Contracting Authority will provide a non-exclusive license, rights of use and access to the lands as is required and sufficient for the Private Partner to perform its obligations, however, the Private Partner will not receive any right, title or ownership interest in the lands.</p> <p>The Private Partner will agree to accept the site condition on an 'as-is' basis subject to the Contracting Authority's disclosure of any relevant defects. The Contracting Authority will often assume responsibility for any further unforeseen or undisclosed risks, such as contamination, endangered species, items of geological, historical or archaeological value, and in certain cases (for example, where the rail system is to be tunnelled) misplaced utilities.</p> <p>The Contracting Authority is typically best placed to identify the infrastructure corridor and manage the associated community engagement as part of the pre-feasibility. However, this may depend on the capacity and experience of the government, particularly for a market first project, where specialist external consultancy services may be required.</p>	<p>The Contracting Authority should undertake detailed ground, environmental and utility assessments and should disclose such information to the Private Partner as part of the bidding process.</p> <p>The Contracting Authority should, to the greatest extent possible, ensure that it has a complete understanding of the risks involved in securing the site and the site constraints that will impact on the construction and operation of the project. Ideally the Contracting Authority will provide reliable background information on the site, which will allow the Private Partner to economically and accurately price all site risk.</p> <p>The Contracting Authority should also manage any indigenous land rights issues that may impact on the use of the site.</p>	<p>The Contracting Authority will likely be responsible for handling unforeseen risks and will be required to remove and/or handle such risks as they arise with minimal disruption to the Private Partner's operations.</p> <p>The Contracting Authority may need to use its legislative powers to secure the site (e.g. through expropriation / compulsory acquisition).</p>	<p>Land rights and ground conditions in developed markets are typically more established and risks can be mitigated with appropriate due diligence with relevant land registries and utility records.</p> <p>The Private Partner's obligations with regards to indigenous rights are generally well legislated in developed markets, for example requirement to enter into indigenous land use agreements under native title legislation in Australia and the equivalent under first nations law in Canada.</p>	<p>Land rights and ground conditions (in particular reliable utilities records, and land charges) in emerging markets may be less certain than in developed markets where established land registries and utility records exist (for example, verification of title).</p> <p>In the absence of legislation in emerging markets, indigenous land rights issues and community engagement can be managed by the Contracting Authority through the adoption of IFC Safeguards for the project, particularly in order to ensure international financing options are available to the project. See comments on "Environmental and Social Risk" below.</p>

Future initiatives

Other GI Hub Leading Practices initiatives are currently under development, with a view to creating a 'stream' of products that will be released in 2016 and 2017.

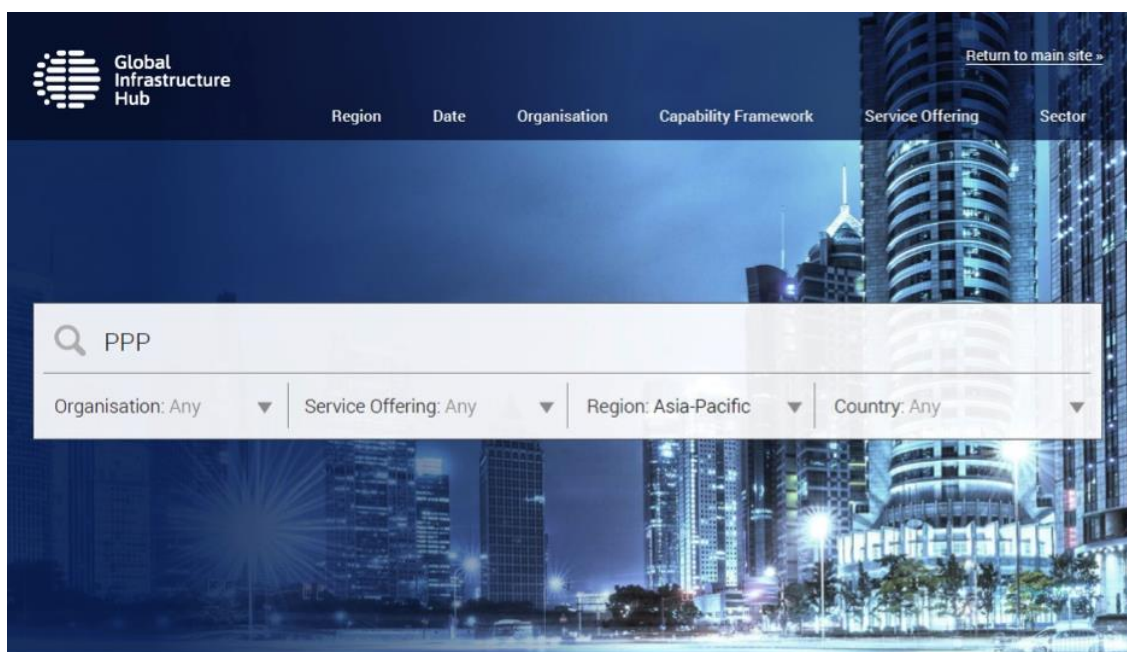
Potential initiatives which are under active consideration include the development of guidance materials in the following areas:

- a tool to assist governments with the identification of those infrastructure projects which are most suitable for implementation as PPPs (as opposed to 'public works' projects) – discussions are under way with the World Bank Group with a view to undertaking this initiative on a collaborative basis, in conjunction with the World Bank Group's ongoing work on project prioritisation;
- tools detailing successful techniques for handling the challenge of renegotiation of PPP transactions – an initiative which could be undertaken jointly with members of the G20 that have extensive experience with such renegotiations; and
- tools to provide guidance on how best to handle the impact of potentially disruptive technological change on the procurement of long-term infrastructure projects, such as, for example, how to deal with the advent of the driverless vehicles when planning long-term road projects – an initiative which may be undertaken with the support of leading academic institutions and B20 members that are developing advanced technologies.

As a final point, it should be stressed that each of the Leading Practices initiatives will be designed to integrate, to the greatest extent possible, with the knowledge products developed by the GI Hub under its other assigned mandates, especially the capacity building mandate and the data gaps mandate.

GI Hub Field Guide to Infrastructure Resources

On 7 April 2016, the Global Infrastructure Hub publicly released the first version of its Field Guide to Infrastructure Resources (Field Guide) at guide.globalinfrastructurehub.org. The Field Guide is a searchable, online database with links to existing infrastructure and finance organisations, data sets, thought leadership pieces, reports, toolkits, templates and case studies.



Benefits of the Field Guide

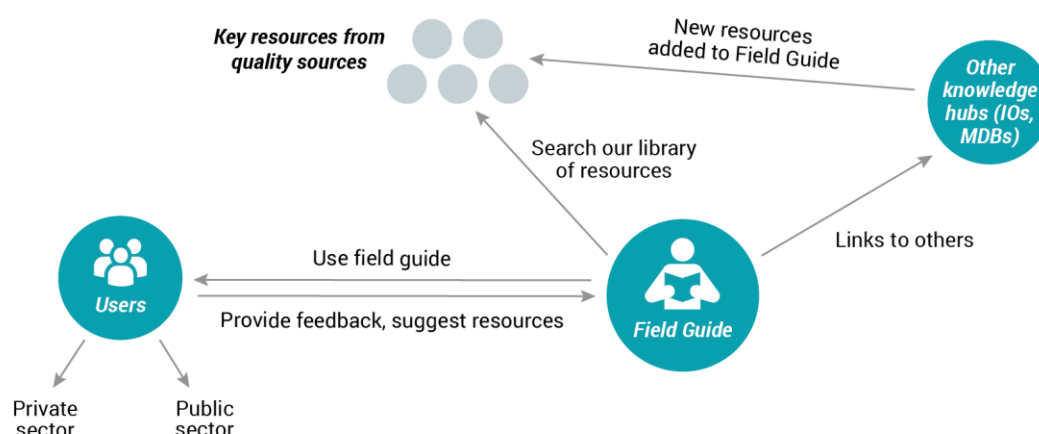
The Field Guide is aimed at ensuring that existing

infrastructure knowledge and resources from the public, private and multilateral sectors are used more effectively. It is the first concrete step in developing the GI Hub's knowledge sharing network – focused on aggregating and sharing information on infrastructure projects and financing between governments, international organisations, development banks, national infrastructure institutions and the private sector.

Utilising features that encourage user comment on resources, and the uploading of new resources, the Field Guide will improve the way infrastructure practitioners utilise existing information and prevent international organisations and knowledge providers duplicating efforts. It will increase accessibility to the vast infrastructure knowledge already in existence by easily directing users to resources they need. By providing a one stop shop for searches on infrastructure products, it reduces search and transaction costs and provides assurance to users that resources are quality and reliable.

The Field Guide does not include any of its own generated material, rather it provides a search interface to easily locate useful resources.

Figure 4: Conceptualisation of the GIH Field Guide



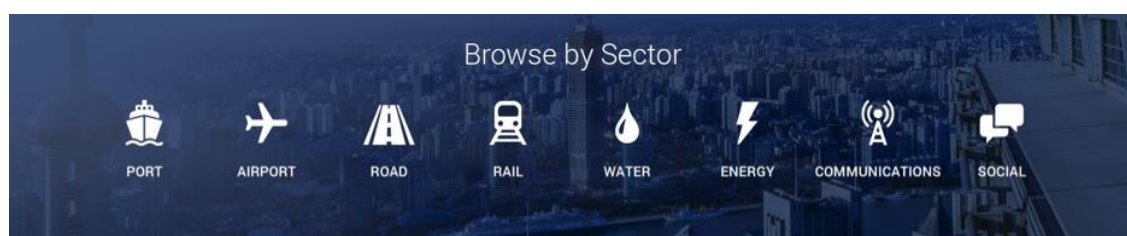
The Field Guide's user friendly platform allows users to suggest additional content and resources, comment on a resource, rate it out of five or start an online conversation about the resource. These user contributions will show whether a resource has been applied successfully in the past and make sure infrastructure practitioners are not wasting their time reading irrelevant or incorrect reports, helping build capacity in the most efficient means possible.

By improving skills of infrastructure practitioners and making it as easy as possible to locate relevant data, the Field Guide will help lower barriers to investment, improve the quality of project preparation and increase industry awareness of information. Both private and public sector feedback have suggested the problem isn't always that the data doesn't exist, just that people do not know it exists or where to find it. The Field Guide is designed to correct this problem.

The Field Guide would be complementary to the MDB-designed and supported 'PPP Knowledge Lab', which has an explicit focus on consolidating the resources on PPPs available in the MDBs. The PPP Knowledge Lab is a curated, comprehensive and easy-to-use online resource on public-private partnerships provided collectively by a large group of MDBs.³

Field Guide functionality

Unlike other online knowledge tools the resources in the Field Guide are neutral between traditional procurement and PPP style procurement and cover the full life-cycle for infrastructure investment – from the policy enabling environment, to project planning and delivery, to operations and secondary markets. It also covers all economic infrastructure sectors – transport (e.g. road, rail, port, airport), water, communications and energy.



To improve

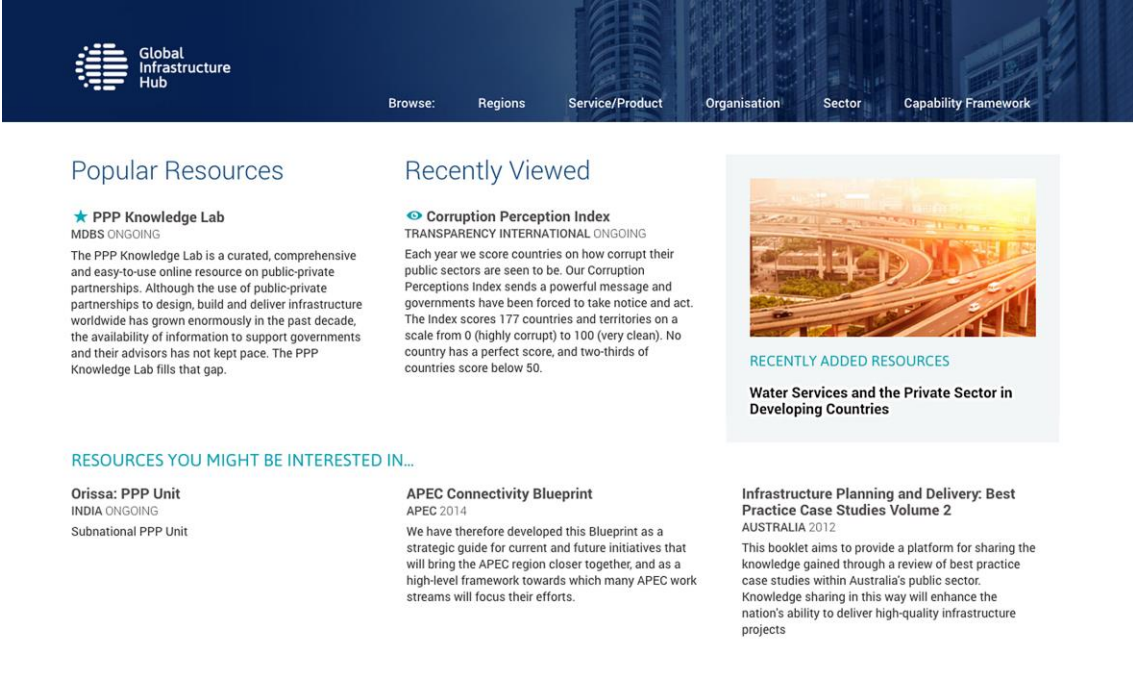
functionality of the Field Guide, resources can be categorised, filtered and searched by:

- Sector: road; rail; port; airport; water; communications; energy.
- Region and country: Africa; Asia-Pacific; Europe & Middle East; Latin America; North America.

³ The PPP Knowledge Lab is built upon the PPP Reference Guide and is supported by the Asian Development Bank, the Inter-American Development Bank's Multilateral Investment Fund, the Public-Private Infrastructure Advisory Facility and the World Bank Group. The platform was also developed with the collaboration of the European Bank for Reconstruction and Development, and the Islamic Development Bank.

- The part of the infrastructure capability life cycle they relate to: investment environment; government capability; public and private financing; infrastructure markets.
- Knowledge product type: data and content; process-oriented; networking; training.
- The product or service they offer: data; research and analysis; guidance and toolkits; templates; case studies; project advisory; investment; training; conferences; networking.

The Field Guide will provide a dynamic and customised experience to its users. It will suggest popular resources, remind users what they were previously viewing, and recommend resources based on a user's region or what similar users have viewed. This experience adds further value compared to other search engines - reducing the time or number of clicks to locate your resource, and improving the ease of use and efficacy of the Field Guide service.



The screenshot displays the Global Infrastructure Hub website. At the top is a dark blue header with the logo and navigation links: Browse, Regions, Service/Product, Organisation, Sector, and Capability Framework. Below the header, the page is divided into sections. On the left, 'Popular Resources' features the 'PPP Knowledge Lab' by MDBS ONGOING, described as a curated online resource on public-private partnerships. In the center, 'Recently Viewed' shows the 'Corruption Perception Index' by TRANSPARENCY INTERNATIONAL ONGOING, which scores countries on corruption levels. On the right, a 'RECENTLY ADDED RESOURCES' box highlights 'Water Services and the Private Sector in Developing Countries'. Below these, a section titled 'RESOURCES YOU MIGHT BE INTERESTED IN...' lists three items: 'Orissa: PPP Unit' by INDIA ONGOING, 'APEC Connectivity Blueprint' by APEC 2014, and 'Infrastructure Planning and Delivery: Best Practice Case Studies Volume 2' by AUSTRALIA 2012. Each item includes a brief description of its content.

Governance

The GI Hub will have ongoing responsibility to maintain and curate the Field Guide. Links to new content will be added as they are produced, with updates on at least a monthly basis. Broken links will be identified and repaired.

The Hub will check user comments and resources for inappropriate content, but otherwise encourages forthright discussion on the platform.

Future improvements

Importantly, the version released on 7 April 2016 is just the first version of the Field Guide. It will be freely available online but will remain a work in progress. Based on user experience, feedback and data analytics, extra features and functionality will be iteratively added, new content will be uploaded and a dynamic and relevant user experience will be ensured.

Users are welcome to provide feedback directly on the Field Guide website: guide.globalinfrastructurehub.org

Attachment A: MDB Joint Activities

An update on joint multilateral development bank (MDB) activities on public-private partnerships, including knowledge sharing activities, learning and knowledge resources, and joint facilities and projects.

Knowledge Sharing

Global Infrastructure Forum

The Global Infrastructure Forum aims to enhance coordination among multilateral development banks and their development partners to better develop sustainable, accessible, resilient, and quality infrastructure for developing countries. It focuses on how governments and their working partners can attract more resources for infrastructure. The forum is jointly organised by the MDBs: African Development Bank, Asian Development Bank, Asian Infrastructure Investment Bank, European Bank for Reconstruction and Development, European Investment Bank, Inter-American Development Bank, Islamic Development Bank, New Development Bank BRICS, and the World Bank Group, in close partnership with the United Nations, and will be held at the headquarters of the International Finance Corporation on April 16, 2016 during the IMF-World Bank Spring Meetings in Washington, D.C.

Islamic Financing in PPPs Webinar Series

The Islamic Financing in PPPs webinar series is a joint initiative of the World Bank Group and the Islamic Development Bank. Islamic financing is starting to emerge as a significant source of funding for PPP infrastructure projects, such as airports, toll roads, independent power plants and hospitals. There are increasing efforts by emerging economies to mobilise private financing for infrastructure through the use of PPPs. This webinar series will focus on increasing knowledge on Islamic financing within countries looking for infrastructure finance, and better facilitation of the use of Sharia-compliant instruments for mobilising private investment in infrastructure through PPPs.

PPP Days Conference

PPP Days is a forum for public sector PPP practitioners to interact with peers and PPP experts from all over the world, along with international organisations, financial institutions, and the private sector. It provides a forum for those charged with developing and implementing PPP programs to share experiences on innovations in PPP policy, structuring, and financing. The three-day conference brings together PPP practitioners from public sector PPP units and senior PPP executives worldwide to analyse and explore innovative PPP models and key policy issues. Since 2010, there have been three conferences. Please find more information on each conference below.

[PPP Days hosted by EBRD, London 2015](#)

[PPP Days hosted by UNECE, Geneva 2012](#)

[PPP Days hosted by ADB, Manila 2010](#)

Learning

PPP Certification Program

The APMG PPP Certification Program is an innovation of the Asian Development Bank, European Bank for Reconstruction and Development, Inter-American Development Bank through its Multilateral Investment Fund, Islamic Development Bank, World Bank Group, part funded by the Public-Private Infrastructure Advisory Facility, and delivered by APMG International. The program marks an important milestone in the MDBs' efforts to share knowledge, establish standards, and enhance professionalism in the delivery of PPPs globally. The basis of the program is the PPP Guide, a comprehensive body of knowledge that prepares candidates for the certified PPP professional credential exam.

Caribbean PPP Boot Camps

To help Caribbean governments fulfil the promise of PPPs to deliver improved infrastructure assets and services, the Caribbean Development Bank, the Inter-American Development Bank, the Multilateral Investment Fund, the World Bank Group, and the Public-Private Infrastructure Advisory Facility have created the Caribbean Regional Support Facility. This US\$1.2 million program was launched at the High-Level Workshop on Practical Implementation on PPPs in Saint Lucia on June 15, 2015. An important component of their initial activities was a series of boot camp-style workshops that sought to increase technical capacity among Caribbean government officials, offering the depth and breadth that has been missing from the PPP market. Three PPP boot camps have taken place to date in Jamaica, Barbados, and Trinidad and Tobago. Another series of boot camps is scheduled for spring 2016 in Latin America.

Knowledge Resources

PPP Knowledge Lab

The PPP Knowledge Lab is a fully curated, comprehensive online resource for public-private partnerships developed by the African Development Bank, Asian Development Bank, European Bank for Reconstruction and Development, Inter-American Development Bank, Islamic Development Bank, and the World Bank Group, with funding from the Public-Private Infrastructure Advisory Facility.

EIU Infrascopes Series

Built by the Economist Intelligence Unit (EIU) and with funding and collaboration from MDB partners, Infrascopes is a benchmarking index and study that assesses the capacity of countries to deliver sustainable public-private partnerships in infrastructure.

International Infrastructure Support System

The International Infrastructure Support System (IISS) is an online, secure, multi-user project development tool to promote and facilitate high quality and efficient global project delivery, accessible to the public and private sector. IISS is a collaborative effort with involvement from the African Development Bank, Asian Development Bank, Brazilian Development Bank, Development Bank of Southern Africa, European Bank for Reconstruction and Development, Inter-American Development Bank, and the World Bank Group.

Public-Private Partnership in Infrastructure Resource Center

The Public-Private Partnership in Infrastructure Resource Center for Contracts, Laws and Regulations provides easy access to an array of sample legal materials which can assist in the planning, design and legal structuring of any infrastructure project — especially a project which involves a PPP. This website is an initiative of the World Bank with funding support from the World Bank, the Public-Private Infrastructure Advisory Facility, the African Legal Support Facility, and the Inter-American Development Bank's Multilateral Investment Fund.

PPP Reference Guide

The PPP Reference Guide presents a global overview of the diversity of approaches and experiences in the implementation of PPPs, providing an entry point to the substantial body of knowledge on PPPs that has been built up by practitioners in governments, the private sector, international institutions, and academia. The Reference Guide 2.0 was released in 2015 and was a collaboration between the World Bank Group, the Asian Development Bank and the Inter-American Development Bank.

Project Preparation Facilities

Global Infrastructure Facility

The Global Infrastructure Facility (GIF) is a global open platform that facilitates the preparation and structuring of complex infrastructure PPPs to enable mobilisation of private sector and institutional investor capital. The GIF platform coordinates and integrates the efforts of MDBs, private sector investors and financiers, and governments interested in infrastructure investment in emerging markets and developing economies—fostering collaboration and collective action on complex projects that no single institution could achieve alone.

Regional Project Preparation Facilities

The multilateral development banks have created project preparation facilities (PPFs) to improve the quality of project development, while also strengthening the local capacity needed to ensure lasting results. The PPFs work to promote regional policy dialogue on infrastructure challenges; to catalyse access to public and private finance sources; and support sustainable infrastructure projects, in particular PPPs. The various PPFs that have been launched can act as a model for public officials in emerging markets to emulate.

[African Development Bank, Africa50](#)

[Asian Development Bank, Asia Pacific Project Preparation Facility](#)

[European Bank for Reconstruction and Development, Infrastructure Project Preparation Facility](#)

[Inter-American Development Bank, Infrafund](#)

[Islamic Development Bank, Arab Financing Facility for Infrastructure](#)

Projects

MDB PPP Project Briefs

This series showcases how the multilateral development banks have come together to support the development and implementation of public-private partnerships. This support comes in the form of public sector loans, private sector finance, sector and transaction advice, guarantees, and output-based aid.

Private Participation in Infrastructure Database

The Private Participation in Infrastructure Projects Database is a joint product of the World Bank Group and the Public-Private Infrastructure Advisory Facility, which seeks to identify and disseminate information on private participation in infrastructure projects in low- and middle-income countries. The database highlights the contractual arrangements used to attract private investment, the sources and destination of investment flows, and information on the main investors. The data can be filtered by projects that include MDB support.

Attachment B: Capability Framework

Building Block 1: Investment Environment

Element	Weight	Type of Indicator	Indicators (Weights)	Existing Metrics
Stability of macro-economic environment	X%	Quantitative	<ul style="list-style-type: none"> GDP growth (X%) Demand/consumption/investment (Y%) Government and private indebtedness (Z%) 	<ul style="list-style-type: none"> IMF World Economic Outlook – GDP growth IMF – investment, consumption IMF - % public debt IMF - % external debt
		Qualitative	<ul style="list-style-type: none"> Macro stability (A%) Track record of structural/sector reform (B%) 	<ul style="list-style-type: none"> Global Competitiveness Index – macro-economic score (WEF) Global Competitiveness Index – general government debt score (WEF) InfraScope business environment measure (EIU) Moody's, S&P, Fitch, Euromoney - sovereign risk ratings
Rule of law	Y%	Quantitative	<ul style="list-style-type: none"> To be developed as part of project 	<ul style="list-style-type: none"> Global Competitiveness Index – institutions, property rights (WEF) World Governance Indicators – regulatory quality and rule of law (WB) World Justice Project – rule of law index
		Qualitative	<ul style="list-style-type: none"> Regulatory quality and rule of law (X%) Institutional design (Y%) Property rights (enforcement and expropriation risks) (Z%) Dispute resolution (A%) 	<ul style="list-style-type: none"> World Bank – country policy and institutional assessments (CPIA) Doing Business – ease of resolving insolvency; ease of protecting investors (WB) the Quality of Government Institute InfraScope - institutional framework and legal and regulatory frameworks European Commission - evaluation of European judicial systems
Currency volatility and convertibility	Z%	Quantitative	<ul style="list-style-type: none"> Currency volatility (X%) Currency convertibility (Y%) 	<ul style="list-style-type: none"> To be derived from Bloomberg – currency exchange rate
		Qualitative	<ul style="list-style-type: none"> Long term currency stability (Z%) 	<ul style="list-style-type: none"> To be derived from sovereign credit ratings

Element	Weight	Type of Indicator	Indicators (Weights)	Existing Metrics
Public support for infrastructure investment	AA%	Quantitative	<ul style="list-style-type: none"> Privatisations (X%) 	<ul style="list-style-type: none"> Global Competitiveness Index – public trust in politicians (WEF)
		Qualitative	<ul style="list-style-type: none"> Citizen engagement (Y%) Public willingness to pay (Z%) Transparency/consultations on proposals (A%) 	<ul style="list-style-type: none"> Global Competitiveness Index – transparency of government policy making (WEF)
Political commitment to infrastructure funding	BB%	Quantitative	<ul style="list-style-type: none"> Public investment in infrastructure 	<ul style="list-style-type: none"> OECD – public investment in infrastructure database
		Qualitative	<ul style="list-style-type: none"> Short-termism Political will, consistency and effectiveness Political distortion 	<ul style="list-style-type: none"> Infrascope political will (EIU) Multilateral Investment Guarantee Agency political risk survey (WB) World Governance Indicators – political stability (WB) Control Risk – economic and geopolitical risk
Taxation and capital controls	CC%	Quantitative	<ul style="list-style-type: none"> Foreign direct investment 	<ul style="list-style-type: none"> Net foreign direct investment in flows (OECD/IMF)
		Qualitative	<ul style="list-style-type: none"> Tax disincentives to investment Repatriation of dividends 	<ul style="list-style-type: none"> Global Competitiveness Index – effect of taxation on incentives to invest (WEF) Global Competitiveness Index – total tax rate (WEF)

Element	Weight	Type of Indicator	Indicators (Weights)	Existing Metrics
Corruption	ZZ%	Quantitative	<ul style="list-style-type: none"> • Anti-corruption measures • Transparent impact assessment • Probity and accountability 	<ul style="list-style-type: none"> • Global Competitiveness Index – judicial independence (WEF) • Global Competitiveness Index – diversion of public funds (WEF) • Global Competitiveness Index –ethical behaviour of firms (WEF) • Global Competitiveness Index – irregular payments and bribes (WEF) • Transparency international – corruption index (TI) • Press Freedom Index • Public accountability mechanisms • Global Integrity Index • the Quality of Government Institute

Building Block 2: Government Capability

Element	Weight	Type of Indicator	Indicators (Weights)	Existing Metrics
Appropriate fiscal and budget monitoring	X%	Quantitative	<ul style="list-style-type: none"> Number of relevant metrics 	<ul style="list-style-type: none"> OECD: international budget practices and procedures database Open budget index rankings Pefa.org - public expenditure and financial accountability International budget practices and procedures survey IMF - fiscal rules dataset
		Qualitative	<ul style="list-style-type: none"> Existence of reliable and relevant data Ongoing project/contract management capability Evidence of measuring cost/time/performance outcomes to targets 	<ul style="list-style-type: none"> Infrascope – experience in infrastructure projects and quality of infrastructure projects
Government endorsed national infrastructure plan	Y%	Quantitative	<ul style="list-style-type: none"> Number of infrastructure related plans Number of projects within infrastructure plans 	<ul style="list-style-type: none"> To be developed as part of project
		Qualitative	<ul style="list-style-type: none"> Clear purpose/policy/socio-economic goals Document that outlines infrastructure targets/pipeline Evidence of co-ordinated regional and national projects Evidence of infrastructure planning 	<ul style="list-style-type: none"> To be developed as part of project
Effectiveness of government in project selection, project preparation, procurement and implementation	Z%	Quantitative	<ul style="list-style-type: none"> % of projects that achieve financial close Time period from planning to delivering project (% of projects on time) % of projects on budget (cost overruns) 	<ul style="list-style-type: none"> To be developed as part of project
		Qualitative	<ul style="list-style-type: none"> Transparent and evidence based decisions on project prioritisation and selection Existence of robust and consistent cost-benefit analysis methodology 	<ul style="list-style-type: none"> Infrascope – methods and criteria for awarding projects Infrascope – public capacity to plan and oversee PPP To be developed as part of project

Element	Weight	Type of Indicator	Indicators (Weights)	Existing Metrics
Government's ability to deliver environmental permits and land acquisitions	AA%	Quantitative	<ul style="list-style-type: none"> Timeframes to make decisions 	<ul style="list-style-type: none"> Doing Business – number of days for government approvals (WB)
		Qualitative	<ul style="list-style-type: none"> Process transparency Extent of process streamline Government role granting permits and acquiring land 	<ul style="list-style-type: none"> To be developed as part of project
Well-equipped dedicated PPP units with clear mandates and lines of accountability	BB%	Quantitative	<ul style="list-style-type: none"> % of projects planned, structured, procured and executed by PPP units 	<ul style="list-style-type: none"> To be developed as part of project
		Qualitative	<ul style="list-style-type: none"> Effectiveness of PPP units Skill mix in PPP related units Evidence of accountability and mandate of PPP function Dedicated PPP units within an effective institutional framework 	<ul style="list-style-type: none"> World Bank – country policy and institutional assessment To be developed as part of project
Effectiveness of coordination of responsibilities with other government units (including sub-national);	CC%	Quantitative	<ul style="list-style-type: none"> Number of agencies/parties responsible for co-ordination Number of infrastructure projects that cross jurisdictional borders 	<ul style="list-style-type: none"> To be developed as part of project
		Qualitative	<ul style="list-style-type: none"> Role of government in coordinating action Evidence of joint working groups 	<ul style="list-style-type: none"> World Bank – world governance indicators on government effectiveness Infrascope – subnational indicators
Degree of standardisation of contractual frameworks	ZZ%	Quantitative	<ul style="list-style-type: none"> Number of standard contracts used 	<ul style="list-style-type: none"> To be developed as part of project
		Qualitative	<ul style="list-style-type: none"> Existence of standard contractual frameworks Existence of contractual guidelines 	<ul style="list-style-type: none"> To be developed as part of project

Building Block 3: Private and Public Financing

Element	Weight	Type of Indicator	Indicators (Weights)	Existing Metrics
Constraints in local financial markets	X%	Quantitative	<ul style="list-style-type: none"> Level of compliance with Basel III Level of compliance with solvency II regulation Number of global standard capital and prudential requirements 	<ul style="list-style-type: none"> World Bank – market capitalisation World Bank – stocks traded World Bank – foreign direct investment inflows To be developed as part of project – infrastructure specific, long term investment metric
		Qualitative	<ul style="list-style-type: none"> Evidence of appropriate and predictable regulatory and supervisory framework Evidence of valuation rules, risk based capital requirements and prudential measures Likelihood of attracting international finance 	<ul style="list-style-type: none"> WEF – Global Competitiveness Index (GCI) market size WEF - GCI financing through local equity market WEF – GCI business impacts of rules on foreign direct investment OECD – foreign direct investment restrictiveness index To be developed as part of project – infrastructure specific, long term investment metric
Availability of development banks and international financial institutions funding and credit enhancing products	Y%	Quantitative	<ul style="list-style-type: none"> Number of credit enhancing products Number of development banks/international financial institutions currently participating Amount of funding from development banks/international financial institutions 	<ul style="list-style-type: none"> OECD development resource flows World Bank - world development indicators – aid effectiveness To be developed as part of project – infrastructure specific, long term investment metric
		Qualitative	<ul style="list-style-type: none"> Dedicated and transparent financing institutions Availability of grant/debt/equity Effective use of credit enhancing products 	<ul style="list-style-type: none"> OECD – detailed aid statistics OECD – other official flows (bilateral)
Liquidity of infrastructure markets	Z%	Quantitative	<ul style="list-style-type: none"> Size of listed and unlisted infrastructure markets Size of infrastructure secondary market Number of participants in infrastructure market 	<ul style="list-style-type: none"> Prequin – deal flow World Bank – PPI database To be developed as part of project

Element	Weight	Type of Indicator	Indicators (Weights)	Existing Metrics
		Qualitative	<ul style="list-style-type: none"> • infrastructure securities market structure 	<ul style="list-style-type: none"> • Inspiratia – infrastructure financing • Infrascopie – financial facilities • To be developed as part of project
Availability of sustainable finance (green bonds, development impact bonds)	AA%	Quantitative	<ul style="list-style-type: none"> • Value of sustainable finance • Number of 'green bonds' 	<ul style="list-style-type: none"> • To be developed as part of project
		Qualitative	<ul style="list-style-type: none"> • Institutions that issue sustainable finance 	<ul style="list-style-type: none"> • To be developed as part of project
Political bipartisan support for private financing in infrastructure investment	BB%	Quantitative	<ul style="list-style-type: none"> • % of infrastructure projects privately financed • Amount of private financing • Number of private infrastructure institutions 	<ul style="list-style-type: none"> • Inspiratia - PPP political support metric
		Qualitative	<ul style="list-style-type: none"> • Dedicated and transparent financing institutions 	<ul style="list-style-type: none"> • To be developed as part of project
Availability of liquidity in fx and interest rate swap markets	CC%	Quantitative	<ul style="list-style-type: none"> • Number and value of bonds in local currency 	<ul style="list-style-type: none"> • Bloomberg • To be developed as part of project
		Qualitative	<ul style="list-style-type: none"> • Existence of institutions that issue bonds • Long term tenures 	<ul style="list-style-type: none"> • To be developed as part of project

Building Block 4: Infrastructure Market

Element	Weight	Type of Indicator	Indicators (Weights)	Existing Metrics
Degree of stability, predictability and transparency of regulatory frameworks	X%	Quantitative	<ul style="list-style-type: none"> % of regulated tariff changes over time 	<ul style="list-style-type: none"> To be developed as part of project
		Qualitative	<ul style="list-style-type: none"> Existence of appropriate regulators Independence and expertise of regulators Existence of review and appeals process 	<ul style="list-style-type: none"> World Bank – world development indicators on tariff rate, etc. WEF – executive opinion survey WEF – GCI – goods market efficiency OECD – regulatory indicators (sector regulators, product market regulation, services trade restrictiveness index, sector regulation indicators)
Certainty of taxation regime	Y%	Quantitative	<ul style="list-style-type: none"> Corporate tax rate over time Number of times taxation legislation has been revised 	<ul style="list-style-type: none"> Global Competitiveness Index – total tax rate (WEF)
		Qualitative	<ul style="list-style-type: none"> Business confidence in government stability 	<ul style="list-style-type: none"> Moody's analytics – survey of business confidence To be developed as part of project
Availability of performance data for operating assets	Z%	Quantitative	<ul style="list-style-type: none"> Financial performance of assets Key asset usage performance statistics 	<ul style="list-style-type: none"> To be developed as part of project
		Qualitative	<ul style="list-style-type: none"> Existence of operating data databases Standard framework for performance reporting Government audit organisations 	<ul style="list-style-type: none"> To be developed as part of project
Uniformity of financial instruments	BB%	Quantitative	<ul style="list-style-type: none"> Number of financial instruments that conform to global standards 	<ul style="list-style-type: none"> To be developed as part of project
		Qualitative	<ul style="list-style-type: none"> Standards of financial instruments by instrument type 	<ul style="list-style-type: none"> International financing reporting/accounting standards

Element	Weight	Type of Indicator	Indicators (Weights)	Existing Metrics
Corporate governance	CC%	Quantitative	<ul style="list-style-type: none"> Extent to which corporate governance is applied 	<ul style="list-style-type: none"> Corporate governance databases – SIRCA/ Thomson Reuters To be developed as part of project
		Qualitative	<ul style="list-style-type: none"> Existence of standard corporate governance standard Benchmark of corporate governance levels compared with worldwide standards 	<ul style="list-style-type: none"> Doing Business 2015: going beyond efficiency (WB)
Efficiency of competition agencies	ZZ%	Quantitative	<ul style="list-style-type: none"> Number of competition agency cases won/lost 	<ul style="list-style-type: none"> WEF - Executive Opinion Survey 2014–2015 - intensity of local competition
		Qualitative	<ul style="list-style-type: none"> Existence of competition agencies Rating of competition agency effectiveness compared with others 	<ul style="list-style-type: none"> OECD – regulatory indicators – competition law
State-owned enterprises market share	ZZ%	Quantitative	<ul style="list-style-type: none"> % of value owned by state-owned enterprises Number of state-owned enterprise entities 	<ul style="list-style-type: none"> OECD – size and sectoral distribution of state-owned enterprise dataset
		Qualitative	<ul style="list-style-type: none"> To be developed as part of project 	<ul style="list-style-type: none"> To be developed as part of project