



**European Bank**  
for Reconstruction and Development

In cooperation with the World Bank

# **MDB Infrastructure Cooperation Platform: project preparation workstream**

## **Phase II reference note on project preparation across the full project cycle**

This document contains references to good practices; it is not a compliance document. It should be interpreted bearing in mind the environmental and social policy adopted by the EBRD. In case of any inconsistency or conflict between this document and the environmental and social policy adopted by the EBRD as amended from time to time, such policy shall prevail. Questions of interpretation shall be addressed solely in respect of the environmental and social policy.

The information and opinions within this document are for information purposes only. They are not intended to constitute legal or other professional advice, and should not be relied on or treated as a substitute for specific advice relevant to particular circumstances. The EBRD shall accept no responsibility for any errors, omissions or misleading statements in this document, or for any loss, which may arise from reliance on materials contained in this document. Certain parts of this document may link to external internet sites, and other external internet sites may link to this report. The EBRD is not responsible for the content of any external references.



# Introduction

- This is a follow-up to the phase I reference note developed by the Multilateral Development Bank (MDB) Infrastructure Cooperation Platform's project preparation workstream, drafted in 2018 to complement the overarching *G20 Principles for the Infrastructure Project Preparation Phase*<sup>1</sup> endorsed by the G20 finance ministers in Buenos Aires in November 2018.
- Phase I addressed how project preparation facilities (PPFs) are constituted and ensure efficient, high-quality delivery of project preparation support to government clients.
- The topic of PPFs was chosen based on the broad consensus that an insufficient pipeline of bankable projects, particularly public-private partnerships (PPPs), was a barrier to achieving greater levels of private-sector investment in emerging-market infrastructure.
- The phase I paper focused primarily on MDBs' efforts to create and operationalise a number of new PPFs in recent years, to draw early lessons from their roll-out and, thus, provide some reference notes to MDBs and other development finance institutions (DFIs) as they embark on the process of replenishing existing PPFs and/or creating new ones.

---

<sup>1</sup> [http://www.g20.utoronto.ca/2018/principles\\_for\\_infrastructure\\_project\\_preparation.pdf](http://www.g20.utoronto.ca/2018/principles_for_infrastructure_project_preparation.pdf)

# Phase II reference note objective and contents

- The objective of this phase II reference note is to build on phase I and articulate a common MDB view of what constitutes comprehensive project preparation, highlighting how this contributes to the quality of infrastructure assets and services – as embodied within the G20 Principles for Quality Infrastructure Investment – and assessing the tools, knowledge platforms and other capacity-building approaches used by MDBs across the infrastructure project cycle.
- The reference note reflects our collective experience that weaknesses associated with infrastructure frameworks, as well as capacities to prepare, procure and regulate/oversee, need to be addressed during the preparation of individual projects. Good project preparation, for example, would include a robust plan for resourcing and capacitating contract management skills. The reference note, therefore, reflects the full project life-cycle, from early, “upstream” policy and planning to implementation.
- This paper highlights the roles of MDBs in project preparation, working together as a system. It also identifies aspects of project preparation where MDBs have developed or are working on standard approaches in the form of reference notes or tools. These reference notes and tools respond to the market’s desire for reduced transaction costs and more streamlined project preparation processes – thereby contributing to the emergence of infrastructure as an asset class – while capturing aspects of Quality Infrastructure. Greater standardisation lies at the heart of efforts to create an infrastructure asset class, around which a broad agenda has been built by the various bodies in recent years, including the G20, the Organisation for Economic Cooperation and Development (OECD), several bilateral DFIs, institutional investors and the MDBs.
- This reference note recognises that there are many tools and approaches available. These provide valuable contributions that complement MDBs’ offering across the product cycle and we look to enhance and deepen the process of collaboration in the inclusive spirit of the systemic approach advocated by MDB shareholders. An example of this is the SOURCE platform.<sup>2</sup> SOURCE has been designed to provide a standardised yet adaptive framework allowing for the integration and harmonisation of several international tools and standards, for dissemination and data collection purposes. SOURCE already integrates many internationally recognised tools and approaches and we look to enhance and deepen this process. As they further mainstream these tools into normal operations, the MDBs expect a more systemic approach to emerge, while recognising, of course, the inherent uniqueness of each project in its particular market context.
- The content of this reference note is as follows:
  - The main body of the report outlines a comprehensive project preparation process and describes the nature of MDB support at each stage, as well as relevant tools and reference notes. It underscores how this work contributes to Quality Infrastructure. More details on each tool are presented in Annex A.
  - Annex B introduces several case studies of MDB support for quality project preparation in practice, highlighting experience of MDB cooperation.

<sup>2</sup> See Annex A.

# Preparing Quality Infrastructure projects – MDB support across the infrastructure life-cycle<sup>3</sup>

- Much of MDBs' work with governments involves supporting the preparation of investment programmes and projects, be they projects in which the MDBs are financially involved or projects supported by PPFs. This note outlines the MDBs' shared view of what is required to prepare Quality Infrastructure projects, as well as the tools and reference notes available to support governments to that end.
- The note reflects MDBs' experience that the preparation of Quality Infrastructure projects extends beyond the projects themselves, requiring consideration, for example, of the regulatory, legal and institutional environment in which the project will be implemented, as well as how projects are selected and prioritised, and arrangements for monitoring and managing the project over its lifetime. As noted in the phase I reference note, this was a key lesson learned from the first wave of PPFs established by the MDBs, which have gradually expanded their support to encompass these elements of the upstream and enabling environment, particularly with regard to strengthening governments' PPP capacity.
- The reference note contained herein, especially in the early phases of the project cycle, is applicable to all types of delivery models, including public sector-led and financed approaches. In this sense, there is no a priori preference for PPPs in this reference note beyond the fact that PPPs - when clearly justified and properly prepared - can lead to greater levels of private sector investment, a factor considered to be critical as a means to close the much-discussed infrastructure gap.
- This reference note, therefore, takes a full "life-cycle approach", enumerating the tools and products that MDBs use, not just for the mid-stream design and structuring activity area within the infrastructure life-cycle, as illustrated in Figure 1. It describes each stage of the project life-cycle, the MDB modalities, tools and reference notes available for support at each stage, and how this work helps to ensure that the project in question reflects the G20 Principles for Quality Infrastructure Investment.<sup>4</sup> This note also refers to tools and reference notes developed by partner organisations, such as the International Monetary Fund (IMF) and the G20 Global Infrastructure Hub (GIH), often in partnership with the MDBs.
- In addition to the reference notes and tools that apply to specific stages, the MDBs have supported the development of standard approaches and reference notes covering the entire infrastructure life-cycle.
  - The **PPP Reference Guide** is an online resource that draws on the substantial body of knowledge on implementing PPPs to provide a wide range of resources for practitioners. Module 3 on implementing PPP projects provides reference notes on issues across the infrastructure life-cycle.
- These tools are complemented by the GIH's recently issued reference notes on project preparation, which draws on a review of country-level project preparation practices to provide a practical guide for governments. Lastly, the SOURCE platform, led and funded by the MDBs since 2014, does not represent a reference product or tool per se, but should be rather considered as an enabling platform to deliver scale and consistency to the entire workstream presented in the document. Through its structured approach to project data and the growing adoption of the platform by national government agencies and MDBs, SOURCE would also enable the collection of standardised project data globally and the usage of MDB tools.
- While the paper focuses largely on PPPs, it should be noted that the vast majority of infrastructure assets are procured with traditional public sector investment. It should be mentioned that effective cost management is at the centre of the infrastructure challenge: as reported in recent research, a reduction in construction costs would increase the ultimate amount of infrastructure completed versus current levels.
- It is also important to note that while PPPs, when well-structured and implemented, can improve service quality, but are not recognised as cost savers as often the quality of infrastructure built under PPPs set a higher standard than traditional procurement.

<sup>3</sup> A list of project-related tools and instruments mentioned in this section is available in Annex A.

<sup>4</sup> Annex C outlines the G20 Principles for Quality Infrastructure Investment.

Figure 1: Overview of MDB support across the infrastructure investment cycle

	Project-related tools and instruments used by MDBs	Constraint addressed	Linkages to quality	
<b>S</b> <b>O</b> <b>U</b> <b>R</b> <b>C</b> <b>E</b>	Enabling environment and Institutional capacity-building	<ul style="list-style-type: none"> <li>Country PPP Readiness Diagnostic</li> <li>PPP Practitioners Certification Course Procuring Infrastructure PPPs</li> <li>Framework for Disclosure in PPPs</li> <li>Public Investment Management Assessment (PIMA)</li> <li>Procuring Infrastructure PPPs</li> </ul>	The need for sound institutional, legal and regulatory environment to attract long-term private sector participation and investment in infrastructure.	Principle 5: Strengthening infrastructure governance
	Infrastructure planning and prioritisation	<ul style="list-style-type: none"> <li>PPP Screening Tools</li> <li>Infrastructure Prioritization Framework</li> <li>GIF's Advisory Council</li> </ul>	The need for governments to prioritise projects, public and private, within limited resources.	Principle 1: Raising economic efficiency in view of life-cycle cost  Principle 5: Strengthening infrastructure governance
	Project design and appraisal (pre-feasibility/feasibility) and structuring	<ul style="list-style-type: none"> <li>PPP Fiscal Risk Assessment (P-FRAM)</li> <li>GIF's Project Readiness Assessment</li> <li>Guidance on Standard PPP Contract Provisions</li> <li>Sustainable Infrastructure Indicators</li> </ul>	The lack of projects and programmes that are commercially viable, and affordable, sustainable, and which offer value for money to taxpayers and users.	Principle 2: Integrating environmental considerations Principle 3: Building resilience against natural disasters and other risks Principle 4: Integrating social considerations Principle 5: Strengthening infrastructure governance
	Bid design and procurement through to commercial/financial close	<ul style="list-style-type: none"> <li>Reference Note on Procurement for Quality Infrastructure</li> <li>Guidelines for Managing Unsolicited Proposals</li> </ul>	The inability of governments to execute the transaction process effectively, allocate risk efficiently and get a fair deal.	Principle 5: Strengthening infrastructure governance
	Implementation and monitoring	<ul style="list-style-type: none"> <li>PPP Contract Management tool</li> </ul>	The difficulty of governments to monitor private sector obligations in form contractual KPIs/performance standards, eroding potential value for money.	Principle 1: Raising economic efficiency in view of life-cycle cost  Principle 4: Integrating social considerations

# I. Enabling environment and institutional capacity-building

Successful projects depend on successful institutions. Any sound project preparation process includes “due diligence” to check that the project is being implemented in an adequate legal, regulatory, policy and institutional framework. MDB support in preparing infrastructure projects, particularly through new and complex structures, such as PPPs, typically goes further. Strengthening the enabling environment and supporting institutions in building capacity are central to MDBs’ infrastructure-related work with governments, both in terms of individual investment projects and at a programmatic level. Accordingly, the MDBs have developed several related tools, described further in Annex A.

- The **PPP Certification Programme**,<sup>5</sup> a joint MDB initiative, provides a structured learning course for prospective PPP practitioners on all aspects of PPP project preparation and management.
- **Procuring Infrastructure PPPs**<sup>6</sup> benchmarks country-level frameworks and approaches for project preparation, procurement and contract management against international good practice. It is currently being expanded to assess governance arrangements for infrastructure across both PPPs and traditional procurement approaches.
- The **Country PPP Readiness Diagnostic Tool**<sup>7</sup> provides a more in-depth assessment of the policy, legal, regulatory and institutional environment for PPP in a given country and recommends actions to strengthen those aspects in the context of a prospective investment programme.
- The **Framework for Disclosure in PPPs**<sup>8</sup> provides a systematic structure for proactively and effectively disclosing information on PPP projects as a key aspect of transparency for PPPs.

These MDB-led tools are complemented by the IMF’s **Public Investment Management Assessment (PIMA)**,<sup>9</sup> a framework for assessing infrastructure governance over the full investment cycle and providing targeted recommendations for economic institution-building in this area.

These tools, and the MDBs’ support for governments in strengthening the enabling environment and building institutional capacity for infrastructure delivery, directly address the Quality Infrastructure principle of strengthening infrastructure governance, in particular, the openness and transparency of processes, and systems for integrating infrastructure and PPP decision-making with broader public investment and fiscal management functions. They contribute indirectly to all Quality Infrastructure principles, by helping to ensure that infrastructure policies and processes embed high-quality project preparation, as described below, and that the responsible institutions have the capacity to put those requirements into practice. All these tools should be employed by the MDBs within the context of the SDGs to ensure that governments plan for inclusive and sustainable infrastructure.

<sup>5</sup> <https://ppp-certification.com/>

<sup>6</sup> [https://ppp.worldbank.org/public-private-partnership/sites/ppp.worldbank.org/files/documents/Procuring%20Infrastructure%20Public-Private%20Partnerships%20\\_2018\\_EN2\\_0.pdf](https://ppp.worldbank.org/public-private-partnership/sites/ppp.worldbank.org/files/documents/Procuring%20Infrastructure%20Public-Private%20Partnerships%20_2018_EN2_0.pdf)

<sup>7</sup> <http://pubdocs.worldbank.org/en/943711467733900102/Country-PPP-Readiness-Diagnostic-Tool.pdf>

<sup>8</sup> <http://pubdocs.worldbank.org/en/143671469558797229/FrameworkPPPDisclosure-071416.pdf>

<sup>9</sup> <https://www.imf.org/external/np/fad/publicinvestment/pdf/PIMA.pdf>

## II. Infrastructure planning and prioritisation

The decision on which projects to pursue is key to the quality of infrastructure assets and services. This should include high international standards of universal design for ensure full accessibility of infrastructure, and the incorporation of the SDGs in a holistic manner, including life-cycle cost analysis. Prior to determining whether a project should be tendered as a PPP, global best practice should be utilised to undertake analyses to determine an investment's basic business case, its economic justification and value for money in both a fiscal and commercial sense, its environmental and social impact, and a thorough assessment of its value for money as a PPP procurement approach versus the public sector comparator. While a final investment decision may be informed by the detailed appraisal and preparation process, many aspects of a prospective project are defined before that process starts as part of infrastructure planning and prioritisation. These decisions, in turn, inform the parameters and scope of project preparation, for example, what level of social or environmental analysis is needed and whether PPP structuring options will be considered as part of project appraisal and structuring work.

Hence, the MDBs typically work closely with governments at this stage, often through programmatic support to strengthen planning processes. Key tools, as described in Annex A, include:

- the **Infrastructure Prioritization Framework (IPF)**:<sup>10</sup> The IPF is a multi-criterion decision support tool that considers project outcomes on two dimensions – social-environmental and financial-economic. It is currently being strengthened to incorporate assessments of the resilience of proposed projects.
- the **PPP Screening Tool**:<sup>11</sup> The forthcoming spreadsheet-based tool uses a combination of qualitative and quantitative inputs to help assess whether a proposed project could be suitable for implementation as a PPP.
- the **GIF Advisory Council**: The Global Infrastructure Facility's (GIF's) Advisory is a particularly useful offering provided by this 2014 G20 initiative. Under the Advisory Council, private sector partners serve as a sounding board to ensure that structures are attractive to private capital.

Work at this pre-preparatory stage contributes directly to the Quality Infrastructure principle of strengthening infrastructure governance, in particular, through sound planning processes that reflect fiscal constraints. Key decisions are also made at this stage that contribute to the Quality Infrastructure principles of raising economic efficiency and building resilience. Both aspects need to be considered at the infrastructure system level – that is, prioritising and sequencing investments in a way that contributes to efficient and resilient infrastructure – as well as at individual project level. The analysis done with MDBs' tools to screen projects may direct governments towards recycling of operational assets, as opposed to new-build PPPs, thus freeing up fiscal resources for other projects.

<sup>10</sup> [http://www.bacid.eu/Tool:Infrasctructure\\_Prioritization\\_Framework\\_\(IPF\)](http://www.bacid.eu/Tool:Infrasctructure_Prioritization_Framework_(IPF))

<sup>11</sup> <https://www.gica.global/activity/ppp-assessment-tool>

### III. Project design, appraisal (pre-feasibility/feasibility) and structuring

This stage encompasses the detailed design, appraisal and structuring work that defines an infrastructure investment. MDBs typically work closely with governments during this period, both on projects to which the MDB will be providing financing support and those intended for private investment through PPFs and other forms of technical assistance.

It is through comprehensive project preparation in the form of design, appraisal and structuring work that many of the Quality Infrastructure principles are addressed. This may include project design and economic appraisal that captures the project's full life-cycle costs and other aspects of raising economic efficiency; detailed environmental impact analyses intended to ensure the project design integrates environmental considerations; project design and technical feasibility analysis that builds in appropriate disaster risk assessment and planning to build resilience; social impact analysis to ensure the project integrates social considerations; and financial and fiscal feasibility analysis that considers fiscal constraints, contributing to sound infrastructure governance. While noting the prevalence of PPPs structured with availability payments, projects with strong and steady user-based revenues have the potential to attract wider pools of potential private sector investment.

The MDBs always ensure that their funds are employed as rationally as possible. This requires that the works, goods and services procured under their financing are of appropriate quality, and acquired at economic prices and in a timely manner. This should include high international standards of universal design to ensure full accessibility of infrastructure, and the incorporation of holistic aspects of the SDGs such as fiscal value for money and life-cycle cost analysis. This is generally best achieved through open international competition, which is also in accord with the interests of promoters. An example of this is provided by EIB in relation to the appraisal of projects, where significant efforts are made to ensuring the highest quality in the preparation and implementation of the infrastructure projects it finances. This includes monitoring procedures which are designed to promote the public policy interest by assessing and tracking the environmental, economic, and social impact of its projects in line with international standards. This standardised quality assessment is a structured methodology known as the Three Pillar Assessment (3PA) that is used to identify and prioritise projects, and the tracking of those projects through their implementation and early operational phases.

For projects financed by one or more MDB, each MDB's operating policies and procedures provide reference notes and frameworks for much of the comprehensive project preparation work. For example, all MDBs have frameworks in place to ensure that environmental and social factors are thoroughly considered in project preparation and managed during implementation. To complement their operating policies, procedures and guidelines, the MDBs have developed additional tools aimed at helping to ensure the quality of project design, appraisal and structuring, even where MDBs are not directly involved in financing (for example, on PPP projects supported by PPFs). We describe these in more detail in Annex A.

- The **Project Readiness Assessment**<sup>12</sup> is a tool that assesses the completeness of project preparation to date, identifies key information gaps and recommends actions that client governments can take to foster robust project preparation.
- The **PPP Fiscal Risk Assessment Model (P-FRAM)**<sup>13</sup> was developed jointly by the IMF and the World Bank to help governments assess the fiscal implications of a PPP project or programme.
- The **Reference Note on Standard PPP Contractual Provisions**<sup>14</sup> provides assistance on the contractual language typically used for eight selected provisions encountered in virtually every PPP contract, to help share good practice and reduce the cost of preparing and procuring high-quality PPPs. This is complemented by a sister tool, the GIH's **PPP Risk Allocation** initiative,<sup>15</sup> a searchable guide on typical risk allocation in PPP transactions.

These tools will be complemented by an incipient work programme to develop a standard set of indicators on the quality and sustainability of infrastructure, which will act as an additional reference tool for governments in assessing project preparation. This work, due to be completed in 2020, ties in with the MDBs' ongoing work on a *Reference Note for Quality Indicators*, which is being prepared by the G20 Infrastructure Working Group (IWG).

<sup>12</sup> <https://www.globalinfrastructure.org/gif-pra>

<sup>13</sup> <https://www.imf.org/external/np/fad/publicinvestment/pdf/PFRAM.pdf>

<sup>14</sup> [https://ppp.worldbank.org/public-private-partnership/sites/ppp.worldbank.org/files/documents/Guidance\\_%20PPP\\_Contractual\\_Provisions\\_EN\\_2017.pdf](https://ppp.worldbank.org/public-private-partnership/sites/ppp.worldbank.org/files/documents/Guidance_%20PPP_Contractual_Provisions_EN_2017.pdf)

<sup>15</sup> <https://ppp-risk.github.org/>

## IV. Bid design and procurement through to commercial or financial close

It is through the procurement process that the government selects who will implement its infrastructure projects and finalises the terms on which they will be tendered. A well-designed procurement process is central to the Quality Infrastructure principle of strengthening infrastructure governance, which requires, among other things, that processes be open and transparent and incorporate integrity measures. Moreover, quality procurement processes contribute to all other aspects of Quality Infrastructure by ensuring that elements of economic efficiency and resilience, as well as environmental and social considerations, are fully reflected in the final project agreements, bid design and selection criteria. Finally, the requirement of adequate insurance is important for all complex infrastructure projects, and should be included in tender documentation.

Each MDB has put in place detailed procurement policies and procedures, in which the principles of Quality Infrastructure are embedded. These will be described more comprehensively in the *Reference Note on Procurement for Quality Infrastructure* currently being prepared by the World Bank as one of the G20 IWG deliverables for 2020.

In addition, MDBs have developed reference material to support governments in specific aspects of transaction management, including projects in which the MDBs are not directly involved and, in particular, those involving the more complex requirements of PPPs.

- The *Policy Guidelines for Managing Unsolicited Proposals (USPs)*<sup>16</sup> accompany the World Bank and International Finance Corporation's (IFC) *Review of Experiences with Unsolicited Proposals in Infrastructure Projects*,<sup>17</sup> which provides an in-depth review of international experience with USP policy frameworks. The latter is based on a comprehensive assessment of USP experience in more than 15 countries and informs the USP policy recommendations in the guidelines. The guidelines underscore the importance of conducting a market check on price by holding a secondary competition and ensuring transparency in USP processes.

These tools will be complemented by an incipient work programme to develop a standard set of indicators on the quality and sustainability of infrastructure, which will act as an additional reference tool for governments in assessing project preparation. This work, due to be completed in 2020, ties in with the MDBs' ongoing work on a *Reference Note for Quality Indicators*, which is being prepared by the G20 Infrastructure Working Group (IWG).

<sup>16</sup> [https://ppp.worldbank.org/public-private-partnership/sites/ppp.worldbank.org/files/documents/UnsolicitedProposals\\_Volume2\\_Guidelines\\_WEB%20%281%29.pdf](https://ppp.worldbank.org/public-private-partnership/sites/ppp.worldbank.org/files/documents/UnsolicitedProposals_Volume2_Guidelines_WEB%20%281%29.pdf)

<sup>17</sup> <http://pubdocs.worldbank.org/en/246961488983068025/Experience-Review-Report-Final-Draft-March-7-2017.pdf>

## V. Implementation and monitoring

The implementation and monitoring stage and its importance to project preparation should not be underestimated. For public-sector agencies unequipped to monitor the contractual provisions associated with performance standards, key performance indicators and the like, the expected value for money can be eroded over time, as asset and service delivery by the private party involved is not monitored rigorously. In conjunction with the GIH, MDB clients can avail of the reference note provided under the GIH **PPP Contract Management Tool**,<sup>18</sup> which is specifically designed to help public-sector agencies manage PPP contracts after financial close, from construction to operation.

The MDB Infrastructure Cooperation Platform commits to providing periodic updates to interested stakeholders with respect to joint reporting on project preparation outputs of commonly tracked indicators, such as number of projects supported, amount of total project investment and total direct private sector mobilised investment as a result of the MDBs' PPFs.

---

<sup>18</sup> <https://managingppp.gihub.org/>

# Annex A: Project-related tools and instruments used by MDBs

This Annex presents detailed case studies of MDBs' project preparation support in action. These are projects from around the world, spanning the energy, road, social infrastructure, telecoms, aviation and maritime sectors, on which MDBs have worked together to support governments in bringing high-quality infrastructure projects to market. These projects exemplify many of the aforementioned reference notes and approaches.

## Reference notes and tools that span the investment cycle

- **SOURCE:**<sup>19</sup> SOURCE is the multilateral infrastructure project platform implemented by the Sustainable Infrastructure Foundation (SIF). Several MDBs, including ADB, IADB, EIB, World Bank and EBRD, provide key inputs into SOURCE, and since 2018, the strategic and financial management of SOURCE is under the supervision of the SOURCE Council, which is composed of representatives from MDBs. SOURCE provides a structured approach to the investment cycle through sectorial templates, hereby enabling: (i) the provision of a standardised and comprehensive map of all aspects to take into account the develop of high-quality, sustainable infrastructure; (ii) deliver MDB tools, reference notes and best practices to project managers at the right juncture in the decision process; (iii) monitor whether projects meet their intended outcomes and benefits during the implementation period, and (iv) collect structured and standardised project data at global scale to assess performance of projects against standards, generate analytics, and benchmarks (for example, unit costs). SOURCE has been designed as a public good, to be used by government agencies and MDBs.
- **PPP Reference Guide:**<sup>20</sup> The PPP Reference Guide tackles the following questions. What are PPPs? Why and when should they be used? What kind of policy, legal and institutional frameworks are needed to ensure that PPPs achieve their objectives efficiently and effectively? What is the process for developing and implementing a PPP project? It provides relevant examples and resources on key PPP topics and helps

readers navigate the substantial body of knowledge that has been generated around the world by governments, international development institutions, academia and the private sector. It is not a toolkit or a step-by-step guidebook, nor does it cover the specifics of PPPs in any given country or sector. The third edition includes new subjects, such as stakeholder communication and engagement, environmental and social studies and standards, and climate change. There are also sections on other relevant topics, such as municipal PPPs and private participation in fragile and conflict-affected states.

## The enabling environment and building institutional capacity

- **Country PPP Readiness Diagnostic Tool:**<sup>21</sup> This tool assesses a country's readiness to implement PPPs. It helps to determine which areas require change or improvement by reviewing the PPP environment in question and comparing it with global best practices. The areas reviewed include PPP experience, stakeholder support and ownership, legislative and regulatory framework, institutional framework, government support, managing fiscal risk, access to finance, transparency and accountability.

The tool is particularly useful for early upstream engagements by MDBs and others, for country clients that do not yet have established working practices in PPP development. This type of early work on the enabling environment helps to steer countries and MDBs through the preparatory work required to create a firm foundation for PPP programmes. There is also a link to fiscal risk (covered in greater detail by the IMF's PIMA and P-FRAM products, which we outline in the following pages), the PPP networks convened by the United Nations Economic Commission for Europe and the legal-framework development work carried out by a number of MDBs, such as the EBRD's Legal Transition Team, which assists in writing specific PPP laws.

- **PPP Practitioners Certification Course for Procuring Infrastructure PPPs (CP3P):**<sup>22</sup> The PPP certification programme is an innovation of the ADB, the EBRD,

<sup>19</sup> <https://public.sif-source.org/source/>

<sup>20</sup> <https://pppknowledgelab.org/guide/sections/1>

<sup>21</sup> <http://pubdocs.worldbank.org/en/943711467733900102/Country-PPP-Readiness-Diagnostic-Tool.pdf>

<sup>22</sup> <https://apmg-international.com/product/ppp-certification-program>

the IADB, the Islamic Development Bank (IsDB), the Multilateral Investment Fund and the World Bank, and part funded by the Public-Private Infrastructure Advisory Facility (the PPIAF), with a shared vision of enhancing PPP performance globally. CP3P is the definitive credential for demonstrating to one's peers that one's abilities are aligned with international PPP good practices.

The PPP certification programme is an internationally recognised training programme for public-sector staff in emerging markets, who undertake an extensive three-level curriculum, delivered by authorised training organisations worldwide. It is administered by APMG, a globally recognised certification company. The programme is delivered by specialised consultants to MDB clients typically based in PPP units, but also in key line ministers and municipalities. The course work is taught using both online resources and a series of short, intensive seminar-style learning modules.

So far, 2,000 emerging-market public-sector officials from more than 100 countries have taken the Level 1 exam, while 600 people have taken the Level 2 exams. Interestingly, nearly 1,000 people from OECD countries have taken the Level 1 exam. The foundation exam can be taken in English, French, Spanish, Chinese, Russian and Portuguese.<sup>23</sup> The CP3P credential has been widely adopted by a number of MDBs, which actively support the courses through their training budgets and PPFs. Thanks to this support, the credential has become recognised worldwide and continues to expand. By 2022, most emerging markets will have received training (which typically means that around 20 public-sector staff from that country will have received Level 1 training). It has also been useful to the MDBs themselves, with their staff having passed the Level 1 and 2 exams in significant number (more than 70 EBRD staff and more than 150 World Bank staff have taken the exam, for example).

- **PPP Massive Online Open Course (MOOC): How can PPPs deliver better services?**<sup>24</sup> The free MOOC, designed by a number of MDBs and academic

institutions, was launched in 2015, in both English and French. The two courses attracted more than 50,000 registrations.

- **Framework for Disclosure in PPPs:**<sup>25</sup> The framework provides a systematic structure for proactively disclosing information pertaining to PPP projects. It is a collaboration by the World Bank Group, the Construction Sector Transparency Initiative, the PPIAF and the OECD and was endorsed by the G20.
- **Public Investment Management Assessment (PIMA):**<sup>26</sup> The PIMA framework helps to improve infrastructure governance by identifying the strengths and weaknesses of country practices and providing targeted recommendations. It evaluates infrastructure governance using 15 key institutional features across the three stages of the public investment cycle: (i) planning public investment; (ii) allocating public resources to sectors and projects; and (iii) implementing productive public assets. The tool is used primarily by the World Bank and the IMF to gain an overview of the strengths and weaknesses of national public investment processes and set out a prioritised and sequenced reform action plan. The PIMA framework has been well received by member countries, with more than 30 assessments conducted to date (mainly in emerging markets and low-income developing countries) and a number of requests in the pipeline. Eight PIMAs have been or are about to be published.

## Infrastructure planning, appraisal and prioritisation

- **Infrastructure Prioritization Framework (IPF):**<sup>27</sup> The IPF is a multi-criteria decision support tool that considers project outcomes on two dimensions – social-environmental and financial-economic. The IPF can inform the selection of projects by combining selection criteria into social-environmental and financial-economic indices when large groups of small-to medium-sized projects are proposed, resources for implementation are limited and basic project appraisal data (but not a full social cost-benefit analysis) are available.

<sup>23</sup> <https://ppp-certification.com/>

<sup>24</sup> <https://ppp.worldbank.org/public-private-partnership/library/ppp-massive-open-online-course-how-can-ppps-deliver-better-services>

<sup>25</sup> <http://pubdocs.worldbank.org/en/773541448296707678/Disclosure-in-PPPs-Framework.pdf>

<sup>26</sup> <https://www.imf.org/external/np/fad/publicinvestment/pdf/PIMA.pdf>

<sup>27</sup> [http://www.bacid.eu/Tool:Infrasctructure\\_Prioritization\\_Framework\\_\(IPF\)](http://www.bacid.eu/Tool:Infrasctructure_Prioritization_Framework_(IPF))

The IPF is structured to accommodate multiple policy objectives, take into account social and environmental factors, provide an intuitive platform for displaying results and take advantage of available data while promoting capacity-building and data collection for more sophisticated appraisal methods and selection frameworks. MDBs use the tool to help clients gauge how well a project might be suited to PPP and should be followed up with detailed studies. The IPF can also be used as a decision-making tool or checklist at the feasibility stage to determine whether a project should move forward to tender.

- **PPP Screening Tool:**<sup>28</sup> This forthcoming spreadsheet-based tool assists practitioners in the preliminary screening of potential PPP projects using a combination of qualitative and quantitative inputs. The tool can be customised to country-specific requirements. It enables practitioners to identify deficiencies, roadblocks and areas for improvement in the next development stage of shortlisted projects. It can also be used as a decision-making tool or checklist at any stage of project development prior to the initiation of procurement to ensure that a project is sound or to determine whether it should proceed to tender. MDBs use the tool to help clients establish whether a project might be suitable for PPP and should be followed up with detailed studies
- **The Global Infrastructure Facility** is a 2014 initiative by the G20, designed to tackle head-on the dearth of quality infrastructure pipelines in emerging markets and developing economies (EMDEs). Funded with initial capital of US\$ 94 million, the GIF's founding donors include Australia, Canada, China, Japan, Singapore, and the World Bank. Housed at the World Bank, the GIF works with its MDB technical partners to provide comprehensive end-to-end transaction advisory services to EMDE governments through both funding and a robust team of technical experts. As a global collaboration platform, the GIF partnership includes private sector investors and financiers with US\$ 13 trillion of assets under management. These advisory partners serve as a sounding board to ensure that structures are attractive to private

capital. At present, GIF-supported quality infrastructure programmes and projects are estimated to mobilise more than US\$ 65 billion in total investment.

## Project preparation (pre-feasibility/feasibility), design and structuring

- **PPP Fiscal Risk Assessment (P-FRAM):**<sup>29</sup> The P-FRAM is an Excel-based tool that quantifies the macro-fiscal implications and potential fiscal risks of PPP projects. The assessment entails gathering specific project information and determining a government's role at key stages of the project cycle. It is mostly designed to help PPP units make informed fiscal decisions on PPP projects based on impacts and risks. The World Bank and the IMF use the P-FRAM to assess the potential fiscal costs and risks arising from PPP projects. It is designed for MDBs to use with clients, such as PPP units in ministries of finance.
- **Project Readiness Assessment:**<sup>30</sup> The Project Readiness Assessment is a standardised tool managed and financed by the Global Infrastructure Facility (GIF) that assesses the completeness of project preparation, identifies key information gaps and recommends actions that client governments can take to ensure robust project preparation and maximise the probability of projects reaching financial close and achieving long-term sustainability. The tool also includes a basic high-level project risk assessment. The action plan typically forms the basis of a government's application for a full package of project preparation support. The tool is used by the GIF and its partners to provide governments with an independent snapshot of the quality of project preparatory work and recommendations to ensure that governments have the information they need before taking key investment and tendering decisions.
- **Sustainable infrastructure indicators (various sources):** Due to the diversity of sustainable infrastructure indicators used by MDBs, DFIs, donors, technical institutions, non-governmental organisations (NGOs) and others, the MDBs have resolved to try to consolidate their various indicators. This process

<sup>28</sup> <https://www.gica.global/activity/ppp-assessment-tool>

<sup>29</sup> <https://www.imf.org/external/np/fad/publicinvestment/pdf/PFRAM.pdf>

<sup>30</sup> <https://www.globalinfrastructure.org/gif-pra>

includes a survey of the MDBs' current indicator sets, which is being undertaken by the IFC together with a number of the MDBs. There are other efforts underway among the leading technical NGOs – specifically, Switzerland's Global Infrastructure Basel, Harvard University's Envision initiative and Australia's International Society for Quality in Health Care (ISQUA) – supported by the MDBs to varying degrees, to streamline and align their various methodologies into a consolidated approach. MDBs actively use sustainability indicators in their regular reporting and in response to shareholder, donor and NGO requests.

The IFC, at the request of the G20 IWG, has begun the process of surveying the MDBs' indicators – one of the deliverables being prepared in the first half of 2019. Social and economic inclusion has become more important to the MDBs over the past few years, with specific departments now dedicated to developing methodologies and techniques for mainstreaming these considerations (for example, the built-in training and employment of systematically excluded groups) in project procurement and implementation.

- **Reference Note on Standard PPP Contractual Provisions:**<sup>31</sup> The reference note, a collaboration by the PPIAF and the World Bank Group, assists contracting authorities, particularly in emerging PPP markets, in gaining a better understanding of certain contractual provisions typically included in a PPP agreement. It also details key considerations for public contracting authorities when developing contracts for specific PPP projects including the adequate, fair and transparent allocation of risks/returns. The 2019 reference note is currently undergoing public consultation and updates the 11 chapters of the 2017 edition in accordance with stakeholder feedback on a number of themes, including environmental and social issues in the context of PPP agreements. Three additional chapters address the topics of contracting authority step-in rights, termination events and the hand-back of assets at the end of the PPP agreement.

## Bid design and procurement through to commercial or financial close

- **Guidelines for Managing Unsolicited Proposals:** *The Guidelines for the Development of a Policy on Unsolicited Proposals in Infrastructure Projects*<sup>32</sup> offer policy recommendations for managing USPs. USPs are an alternative to the traditional project initiation method, whereby the private sector, rather than the government, takes the leading role in identifying and developing a project. In practice, many public authorities around the world resort to USPs, motivated by the perspective of solving the challenges brought about by their own lack of capacity to identify and develop such projects. However, many projects that originate as USPs encounter challenges, including the diversion of public resources away from a government's strategic plans, poor value for money, patronage and a lack of transparency, particularly in developing countries.

## Implementation and monitoring

- **PPP Contract Management Tool:**<sup>33</sup> The GIH PPP Contract Management Tool provides public-sector officials responsible for managing PPP contracts after financial close with practical reference notes and case studies, so they are better able to meet project objectives and ensure value for money.

<sup>31</sup> [https://ppp.worldbank.org/public-private-partnership/sites/ppp.worldbank.org/files/documents/Guidance\\_%20PPP\\_Contractual\\_Provisions\\_EN\\_2017.pdf](https://ppp.worldbank.org/public-private-partnership/sites/ppp.worldbank.org/files/documents/Guidance_%20PPP_Contractual_Provisions_EN_2017.pdf)

<sup>32</sup> [https://ppp.worldbank.org/public-private-partnership/sites/ppp.worldbank.org/files/documents/UnsolicitedProposals\\_Volume2\\_Guidelines\\_WEB%20%281%29.pdf](https://ppp.worldbank.org/public-private-partnership/sites/ppp.worldbank.org/files/documents/UnsolicitedProposals_Volume2_Guidelines_WEB%20%281%29.pdf)

<sup>33</sup> <https://managingppp.gihub.org/>

# Annex B: Examples of MDB project preparation support

It should be noted that these case study examples may, in certain cases, be subject to updating with regard to specific figures and volumes to capture the latest levels of investment and progress made on the ground.



**European Bank**  
for Reconstruction and Development



MULTILATERAL DEVELOPMENT BANKS'  
INFRASTRUCTURE COOPERATION PLATFORM:  
INFRASTRUCTURE INVESTMENT PROJECT BRIEFS

## Egypt: Benban Solar

### Overview

In 2017, the Republic of Egypt rolled out the world's largest framework to finance renewable energy. The financing will go towards developing the world's largest renewable energy programme, supported by the Egyptian government's feed-in-tariff (FiT) regime. Through concerted policy and reform efforts, which have established the benchmark for the solar sector in the Middle East and North Africa (MENA) region, the programme has attracted widespread investment from MDBs, DFIs and MIGA, at a total investment cost of US\$ 1.2 billion.

### Background

As of spring 2019, the Benban Solar Park, north of Aswan in Upper Egypt, is nearing completion, when it will become the largest solar installation in the world. Across 36 km<sup>2</sup>, more than 6 million solar panels will turn the relentless desert sun into clean energy to fuel Egypt's growing economy.

The history of this remarkable plant goes back several years. The Egyptian government first launched its FiT scheme in October 2014, with a presidential decree giving wind and solar producers the right to sell their power to state-owned Egyptian Electricity Transmission Company (EETC) at a fixed tariff. The first round of the scheme expired in October 2016, with a very limited number of projects. No first-round projects received MDB financing due to misgivings about certain aspects of the proposed contractual framework, which were later rectified for the second round after extensive discussions with government.

Egypt's overarching strategy for renewable energy to 2035 was set out in its Sustainable Energy Strategy, approved in 2016. This reaffirmed the Supreme Energy Council's February 2008 decision to set a target of 20 per cent of electricity consumption to be met from renewable



sources by 2022 and 42 per cent to be met by 2035. The key driver of this strategy is the recognition that Egypt's outstanding renewable resources can make a significant contribution to meeting the country's energy challenges cheaply, cleanly and quickly. The use of a feed-in tariff scheme stemmed from a policy decision to progressively reduce the state's role in electricity generation and prioritise the role of the private sector in both ownership and finance. This decision was reflected, in particular, in the revised Electricity Law of July 2015.

### Project description

The project provides financing to support the development of private renewable energy projects under the Egyptian government's FiT programme. Specifically, 16 plants will deliver 750 MW of solar photovoltaic capacity out of the expected 1,465 MW expected to come online at the Benban Solar Park. As the largest financier of the Benban FiT programme, the EBRD has contributed US\$ 368 million of its own money and helped mobilise more than US\$ 476 million from co-lenders, including France's Proparco, the Netherlands Development Finance Company (FMO), the Islamic Development Bank (IsDB), Islamic Corporation for the Development of the Private Sector (IsDBG), MIGA

This project showcases how MDB collaboration is supporting the world's largest investment programme for private renewable energy in Egypt, combining regulatory support for greater clarity on tariffs with substantial direct and mobilised investment.

and the Industrial and Commercial Bank of China for a total investment cost of around US\$ 1.2 billion.

### MDBs' role

The Egyptian government launched the second round of the FiT programme in September 2016, with lower tariffs to reflect the declining prices in the global renewables market since October 2014. In addition, the government developed a revised, bankable contractual framework, with the support of the EBRD and other international financial institutions.

The Bank has prioritised support for private renewable energy in Egypt, because of the many, interrelated benefits of (i) the rapid deployment of new generating capacity, (ii) the reduced environmental impact, especially CO<sub>2</sub> emissions, (iii) reduced demand for hydrocarbons, (iv) greater private participation and (v) the introduction of more diverse models for buying and selling electricity.

This support has come in the following areas:

**Bankability:** The Bank engaged in detailed policy dialogue with the Egyptian authorities on bankability-related issues, leading the discussions in consultation with other international financial institutions (IFIs) lending to the FiT programme. The discussions focused primarily on developing a contractual framework that was acceptable to investors, bankable, and fair to and sustainable for the public. In these talks, the Bank was able to leverage its detailed knowledge of and relationships in the Egyptian power sector, together with its credibility and experience in financing private renewable projects, particularly in Jordan and the wider southern and eastern Mediterranean (SEMED) region.

**Environmental and social management:** The EBRD supported the initiation of a Strategic Environmental and Social Assessment (SESA) to ensure that cumulative impacts were identified and managed. The EBRD engaged with its clients and worked with other IFIs and the Egyptian authorities to ensure that developers working in Benban cooperated on managing these effects. This has extended to working with the authorities and the developers in building an environmental and social governance structure, with sufficient management capacity to deliver collectively on SESA commitments. This has resulted in actions such as the introduction of a facilities management consultant to manage the construction progress and the creation of the Benban Developer Association to manage the cumulative environmental and social impacts. Moreover, each FiT sub-project was subject to full project- and sponsor-specific environmental and social due diligence with the support of an independent

consultant. This resulted in the Environmental & Social Action Plan, which identified environmental and social issues that the respective sponsors had to address to ensure alignment with EBRD standards.

**Technical cooperation:** The Bank implemented three separate technical cooperation projects in support of renewable energy in Egypt. These covered the drafting of a solar grid code and the preparation of SESAs for the Benban and West Nile areas, which were identified for the second phase of both wind and solar development.

In addition, the Bank was able to secure concessional financing from the Green Climate Fund (GCF), established in 2010 under the umbrella of the United Nations Framework Convention on Climate Change as a mechanism to help countries respond to climate change by investing into low-emission and climate-resilient development. The Egyptian funding has two components:

*Component 1* consists of a broad technical assistance programme designed to support the Egyptian authorities with technical, legal and commercial advice in structuring the regulatory framework for the next phase of renewable energy development, covering the period up to the 2022 deadline for Egypt's current renewable-energy target. The technical assistance programme has a budget of US\$ 7 million, which is jointly financed by the GCF and EBRD-mobilised donor funding.

*Component 2* comprises up to US\$ 150 million of GCF concessional financing, which is being used to co-finance the projects alongside EBRD and other IFI debt. The purpose of component 2 is to mobilise additional debt to meet the large capital demands of the Egyptian renewables sector.

### Outcomes

The main development benefits are expected to include:

- major investments in renewable energy in Egypt – the world's largest solar facility – without an additional burden on state finances
- the mobilisation of more than US\$ 1.2 billion in investment
- the addition of more than 36 km<sup>2</sup> of solar installation
- power generation for more than 5 million people annually
- a foundation for Egypt and governments in the region to scale up solar investments at very competitive costs, boosting competitiveness and economic growth.



**European Bank**  
for Reconstruction and Development



MULTILATERAL DEVELOPMENT BANKS'  
INFRASTRUCTURE COOPERATION PLATFORM:  
INFRASTRUCTURE INVESTMENT PROJECT BRIEFS

## Mongolia: Wind



### Overview

A new wind is blowing in Mongolia, with investments in 155 MW of wind power. The country is endowed with some of the world's best natural conditions for this form of renewable energy. These investments were made possible by EBRD-led efforts to establish a proper regulatory framework to enable this initial investment and grid studies to allow for future investment in renewables.

### Background

Mongolia is a vast, isolated and extraordinarily beautiful country. However, the stark glory of its deserts, plains and mountains is not reflected in its energy supply. It relies overwhelmingly on coal-fired combined heat and power plants, which are increasingly unreliable and contribute to some of the worst urban air quality in the world.

For a country facing this challenge, but also blessed with abundant sunny, windy land, renewable energy offers an obvious opportunity. However, realising that opportunity is challenging. Prior to the EBRD's entrance into the sector, Mongolia's generating fleet consisted of around 800 MW of inefficient, polluting and outdated coal-fired power plants.

In 2007, Mongolia passed its first Renewable Energy Law and set its first renewable energy targets, the foundations on which all subsequent developments have rested. Alas, while the overall political direction was clear, nothing else was. There was no regulatory framework, no power purchase agreement and no knowledge base on developing a renewable project.

This project showcases how MDB collaboration is supporting critical investment in wind power for Mongolia, a country with very substantial potential to generate electricity from renewables.

So, the EBRD started working with the authorities, international partners and the private sector to make those targets a reality. First, the Bank funded a comprehensive study to assess Mongolia's renewable potential and outline the required regulatory framework. The same year, it began discussions with local developer Newcom to finance a 50 MW wind farm, located on the appropriately named Salkhit ("windy" in Mongolian) Ridge 70km outside Ulaanbaatar. In the context of this project, the Bank began work with the authorities to develop a bankable power purchase agreement.

By 2009, it was clear that the sector needed more momentum and the Bank invested US\$ 700,000 in the Salkhit project alongside Newcom and, a little while later, the Netherlands Development Finance Agency (FMO). At that stage, the project was still just a windy ridge with a meteorological mast. But the commitment of two development institutions and, in particular, their willingness to put money at risk in a new market, gave substance and impetus to its development. That work culminated in the signing of debt financing agreement for the wind farm, again from the EBRD and the FMO, in 2012. The Salkhit wind farm began operations in August 2013 and, as of end February 2019, had generated 68,000 MWh of clean energy.

#### Project description

- The EBRD supported the project with lending worth US\$ 115. million.
- The European Investment Bank (EIB) committed US\$ 31.4 million to the project.
- The FMO committed US\$ 58.2 million to the project.
- JICA – US\$ 65.8 million
- IFU Denmark (DCIF) – US\$ 17.2 million; EKF - US\$ 15 million; and Triodos – US\$ 10.2 million

These investments included:

- the 50 MW Salkhit Wind project, sponsored by Newcom
- the 50 MW Tsetsii Wind project, sponsored by Newcom and SoftBank Energy
- the 55 MW Sainshand Wind project, sponsored by Engie and Ferrostaal.

#### MDBs' role

Inevitably, the implementation of the first such project exposed problems and challenges with the regulatory framework. The EBRD worked closely with the authorities to understand and address these issues. In summer 2015, the Mongolian parliament passed important amendments to the country's Electricity and Renewable Energy Law, creating the platform for further development: the 50 MW Tsetsii wind farm was financed in 2016 by the Bank and the Japan International Cooperation Agency (JICA), while the 55 MW Sainshand wind farm was financed in 2017 by the Bank and the EIB. Most recently, in 2018, the Bank, the FMO and Triodos Bank financed the 30 MW Desert Solar photovoltaic power plant.

Looking to the future, the EBRD continues to support the next phase of Mongolia's renewable development: how to drive down costs while increasing the capacity of the network to absorb renewable generation. To this end, the EBRD is funding two technical cooperation assignments, both launched in October 2018. The first focuses on designing the actions and investments needed to strengthen Mongolia's ageing grid to allow for more renewable capacity, especially from the sunny, windy expanses of the Gobi desert. The second focuses on the design of a competitive tender mechanism that will use auctions to both set the level of renewable support and select the recipients of that support.

#### Outcomes

Mongolia now has around 200 MW of wind and solar generating capacity alongside its coal-fired plants. This significant contribution comes from the sustained commitment of the Mongolian authorities, coupled with the entrepreneurial engagement of the private sector and the resources and skills of international development institutions. It will take many years before wind and solar can completely substitute coal, but that same combination of efforts will be central to this essential transition.



## WORLD BANK GROUP

THE WORLD BANK  
IBRD • IDA

IFC  
International  
Finance Corporation

MIGA  
Multilateral Investment  
Guarantee Agency

### MULTILATERAL DEVELOPMENT BANKS' INFRASTRUCTURE COOPERATION PLATFORM: INFRASTRUCTURE INVESTMENT PROJECT BRIEFS

# Morocco: Noor Ouarzazate Concentrated Solar Power Complex

## Overview

The Noor II and III concentrated solar power plants of Ouarzazate signal progress in Morocco's commitment to increase its share of renewable energy generation from its current rate of 28 per cent to 52 per cent by 2030. Both projects are part of the Noor Concentrated Solar Power Complex, which will generate power for more than 1.1 million Moroccans by 2018 and reduce greenhouse gas emissions by approximately 690,000 tonnes of CO<sub>2</sub> equivalent per year. The African Development Bank (AfDB), the European Investment Bank (EIB), the World Bank's International Bank for Reconstruction and Development (IBRD), the Kreditanstalt für Wiederaufbau (KfW), the French Development Agency (AFD), the Union and the Clean Technology Fund (CTF), and other development finance institutions have jointly provided US\$ 1.6 billion in loan/grant financing for these projects.

## Background

Morocco is located in North Africa, covering a land mass slightly larger than California. Its population of 34 million (2014) is relatively young—over 45 per cent is under the age of 24—and is growing at 1.4 per cent annually. The country has capitalised on its proximity to Europe and relatively low labour costs to build a diverse, open, market-oriented economy with low inflation rates (under 2.0 per cent). Morocco's GDP grew at 2.7 per cent in 2014 and its per-capita income growth in recent years has contributed to eliminating extreme poverty and significantly reducing poverty—the World Bank estimates that poverty rates fell from 8.9 to 4.2 per cent between 2007 and 2014—although disparities persist and employment remains low.

Morocco's energy needs far exceed its oil and gas production. As a result, as of September 2014, Morocco was the largest energy importer in the Middle East and North Africa (MENA) region, depending on non-domestic



sources for over 97 per cent of its domestic energy demand. In response, the country committed to increasing its share of renewable energy generation to 42 per cent of national capacity by 2020 and 52 per cent by 2030. Morocco currently generates 28 per cent of its energy from renewable energy sources, and plans to achieve the set targets through a combination of solar, wind and hydropower generation. Under the Moroccan Solar Plan (MSP—now referred to as Noor), the country plans to develop 2,000 megawatts (MW) of solar capacity by 2020.

## Project description

The Noor Ouarzazate concentrated solar power (CSP) plants II and III are part of Phase 2 of the Noor-Ouarzazate Solar Complex, which is located less than six miles from the town of Ouarzazate. Once completed, it will have a generation capacity of 580 MW from solar plants using CSP and photovoltaic

This project showcases how the MDBs' collaboration supports the deepening of investment in renewables, with the use of guarantees to lower the risk profile of investments.

technologies. The first phase, Noor I, which generates 160 MW, was commissioned in February 2016.

The Noor Ouarzazate CSP plants II and III projects were developed under a public-private partnership with competitively selected private sponsors that are responsible for engineering, financing, procurement, construction, ownership, operation and maintenance of the plants. The plants consist of a 200 MW parabolic trough CSP facility and a 150 MW tower CSP facility. The project sponsors for Noor Ouarzazate II are Acwa Power (70 per cent), Sener Ingeniería y Sistemas (5 per cent) and the Moroccan Agency for Solar Energy (MASEN) (25 per cent); for Noor Ouarzazate III, they are Acwa Power (75 per cent) and MASEN (25 per cent).

### MDBs' role

Total investment cost of Noor Ouarzazate II is US\$ 1.1 billion, while Noor Ouarzazate III's is US\$ 900 million. Seven development finance institutions provided debt financing through an on-lending structure. Sponsors are providing US\$ 400 million in equity.

Multilateral and bilateral financing support was provided through loans to the utility MASEN, which then lends to the project companies. Loan amounts from development finance institutions for both projects are:

- €100 million — AfDB
- €150 million — EIB
- €83 million — European Commission (grant)
- €235 million + \$80 million — IBRD, of which €58.6 million and \$20 million are used for construction of Noor-Ouarzazate II. The balance funds are part of a viability gap fund for the operational phases of Noor-Ouarzazate I, II, and III plants
- €50 million — Agence Française de Développement (AFD)
- €654 million — Kreditanstalt für Wiederaufbau (KfW)
- US\$ 238 million — Clean Technology Fund, mobilised by AfDB (50 per cent) and IBRD (50 per cent).

### Outcomes

The Noor Ouarzazate CSP plants II and III will increase the installed capacity and electricity output, especially during peak hours, of the Noor-Ouarzazate Solar Complex. Once completed, the complex will supply power to 1.1 million Moroccan households by 2018, increasing Morocco's energy security and avoiding greenhouse gases emissions of around 690,000 tonnes of CO<sub>2</sub> equivalent per year. This reduction is equivalent to the sum of greenhouse gas emissions from over 145,000 passenger vehicles driven for one year (US EPA Greenhouse Gas Equivalencies Calculator).

As part of the project design, MASEN is expected to use each bidding process for the plants under the Morocco Solar Plan to encourage development of local manufacturing capacity.

Based on the experience with Noor I, MASEN expects that a significant part of the projects' costs would be sourced locally. This is intrinsic to CSP technology and should help stimulate development of Morocco's industrial base and create jobs. In the area around Ouarzazate, local authorities and the population will continue benefiting from the economic and social development opportunities that the project can bring, as successfully demonstrated in Noor Ouarzazate I, particularly with regard to playing a catalyst role in the development of this semi-desert region.

At the regional and even global level, the project is expected to have transformational effects not only on Morocco and its energy system but also on the MENA region. The Noor complex will contribute to the development of a local research/development base. Morocco's work on this project is expected to lead to advances in CSP technology and a subsequent reduction in price for the technology that will make it more viable globally.

Photo credits

Front: Philippe Roos/Creative Commons license, [creativecommons.org/licenses/by-sa/2.0/](https://creativecommons.org/licenses/by-sa/2.0/)





## WORLD BANK GROUP

THE WORLD BANK  
IBRD • IDA

IFC  
International  
Finance Corporation

MIGA  
Multilateral Investment  
Guarantee Agency

### MULTILATERAL DEVELOPMENT BANKS' INFRASTRUCTURE COOPERATION PLATFORM: INFRASTRUCTURE INVESTMENT PROJECT BRIEFS

# Jordan: Queen Alia Airport



## Overview

The Queen Alia Airport is Jordan's main international airport and a key component of the country's transport, trade and tourism infrastructure. In 2007, the International Finance Corporation (IFC) served as transaction adviser to the Jordanian government on structuring and awarding a 25-year concession to a private-sector operator responsible for reconstructing and expanding the airport's terminal. It was the first successful airport public-private partnership (PPP) in the Middle East. The Islamic Development Bank (IsDB), the IFC and commercial lenders financed the project. The new terminal was opened in March 2013 and, by mid-2014, the IFC, with the IsDB, had provided and arranged an additional US\$ 68 million in loans to finance an expansion of the new terminal's related facilities.

## Background

The Queen Alia International Airport (QAIA) is located 36 km from the Jordanian capital, Amman. Built in 1983, it handled almost all of the country's air traffic. However, it did not have the capacity to meet growing demand and was too old and small to be expanded. To address these constraints, the Jordanian government sought a private partner to reconstruct the airport's terminal and expand its facilities. The project was key to supporting the country's tourism industry, which accounts for around 10 per cent of the country's GDP. Greater airport capacity was also expected to stimulate trade and drive economic growth.

This project showcases how MDB collaboration supports the enabling environment and institutional capacity-building through the extensive training of local staff, as well as the process from bid design and procurement to commercial/financial close through an application for PPP advisory services.

### Project description

The project consisted of the construction of a new terminal to replace the existing terminal, expanding the new terminal's related facilities and operating the entire airport under a 25-year concession. The project aimed to increase the airport's capacity to handle long-term traffic growth and establish it as a regional transportation hub. The goal of the new terminal project was to improve operations, increase the quality of service and serve as a model for other national infrastructure projects.

Following the successful completion and opening of the new terminal, the airport embarked on a second phase to expand its related facilities, with a view to completion by the end of 2016. The new terminal was to cover more than 100,000 m<sup>2</sup>, increasing the airport's passenger capacity to 12 million annually.

### MDBs' role

In 2007, the IFC successfully advised the Government of Jordan on a pioneering PPP for the QAIA. Through a competitive bidding process, Airport International Group (AIG) was awarded a 25-year concession to construct a new terminal to replace the existing one, expand the new terminal's related facilities and operate the entire airport. The partnership sought to address the constraints on the government's resources. The IFC provided US\$ 120 million in loans to AIG and arranged a syndication of US\$ 160 million from international banks. The IsDB, as a co-financier with IFC, provided a US\$ 100 million loan. The new terminal was successfully completed and opened for traffic in March 2013.

In mid-2014, the IFC provided a US\$ 21 million additional loan and arranged a further US\$ 47 million syndication to finance a further expansion of the new terminal's related facilities to ensure that overall airport capacity continued to meet traffic growth. The IsDB participated in this second financing package, as a co-financier, with a US\$ 25 million loan.

### Outcomes

- Airport capacity was increased from about 4 million passengers in 2007 to 12 million passengers as of the end of 2016.
- With QAIA serving as a regional hub, Jordan's transport and tourism industries, regional links and cross-border trade are expected to grow.
- The number of international flights increased from 120 flights per day (arrivals and departures) from 55 international destinations in 2007 to more than 190 flights a day from more than 60 international destinations in 2015.
- Over US\$ 1 billion in foreign investment and a substantial number of jobs are expected to be generated by the reconstruction and operation of the airport.
- The PPP resulted in a US\$ 700 million investment, 100 per cent financed by the private sector.
- The PPP has generated significant gains for the public sector – a cumulative US\$ 450 million since inception and an annual estimated minimum of US\$ 200 million in future.
- Since the PPP, the airport has won numerous awards, including the 2013 Gold Award for top PPP in Europe, Central Asia and the Middle East North Africa (MENA) region (IFC/Infrastructure Journal); the ACI award for Best Improvement by Region: Middle East 2013; and ACI's Best Airport in the Region: Middle East, 2014.
- QAIA has become Airport Carbon Accredited, streamlining its activities on environmental protection.



## WORLD BANK GROUP

THE WORLD BANK  
IBRD • IDA

IFC

International  
Finance Corporation

MIGA

Multilateral Investment  
Guarantee Agency

MULTILATERAL DEVELOPMENT BANKS'  
INFRASTRUCTURE COOPERATION PLATFORM:  
INFRASTRUCTURE INVESTMENT PROJECT BRIEFS

# Colombia: Fourth-generation toll-road programme



## Overview

In the decade to 2014, Colombia saw remarkable economic growth. Per capita income more than doubled to US\$ 2,424 per year, foreign direct investment inflows were 10 times what they had been and the country ranked highest among the Latin American and Caribbean countries in the World Bank's Doing Business report.

However, public investment in infrastructure stood at a paltry 1.3 per cent of gross domestic product (GDP) in 2014, the effects of which were manifest in its poor standing in infrastructure indices relative to its Latin American and Caribbean peers. The country ranked 103rd out of 140 in the World Economic Forum's Business Environment and Infrastructure Index and 130th out of 140 in terms

of transportation infrastructure. The Government of Colombia established the Fourth-Generation Roads Concession (4G) as one of the mainstays of its National Infrastructure Development Plan 2014-2018.

## Background

The 4G initiative is an ambitious US\$ 24 billion (according to original estimates) near-decade long investment plan to create a nationwide toll-road network through up to 40 different public-private partnerships (PPPs). The investment involves a doubling of public spending on infrastructure and, thus, requires capital-market financing to bridge the expected financing gap. To this end, the World Bank Group developed the Colombia Capital Market Deep Dive to bring together investment, advisory and treasury

This example showcases how the MDB collaboration has supported the enabling environment and the project design and appraisal phases.

support from the International Bank of Reconstruction and Development (IBRD), the International Finance Corporation (IFC) and the Multilateral Investment Guaranteed Agency (MIGA). The Inter-American Development Bank (IADB) has also supported Colombia's 4G investment through (i) financing of the Perimetral del Oriente de Cundinamarca project, which is part of the "first wave" of 4G highways that make up the pilot operations of the Government of Colombia's new PPP framework and (ii) the US\$ 210 million Colombia Ashmore Infrastructure Fund, which makes equity and debt investments available for toll projects.

### Project description

With very limited and dated rail networks, Colombia depends on its road network for more than 80 per cent of internal transport. Therefore, improvements to roads, bridges and tunnels are a top priority for the 4G programme. Over the next eight years, 4G is expected to deliver 5,892 km of roads in three waves of PPP projects. Previous attempts to overhaul the country's transport infrastructure under the second- and third-generation programmes, were fraught with construction and maintenance delays and/or a lack of funding, especially from local pension funds. The 4G project will involve strengthening bond markets, attracting new financing partners, strengthening local investment capacity and bringing an additional level of predictability and certainty to the PPP laws and frameworks that will cover the 40 or so planned transactions.

### MDBs' role

The IBRD, IFC, IDB and MIGA were able to come together and support the 4G programme in a variety of ways, including:

#### Funding

- improved pricing benchmarks (government bonds) developed through technical advisory support from the IBRD
- a standardised project bond structure with an AA+ shadow rating and a project-bond construction guarantee from the IFC
- a US\$ 70 million IFC equity investment in the Fondo de Desarrollo Nacional (FDN, Colombia's infrastructure development bank)
- a US\$ 50 million IFC investment in a local infrastructure debt fund that helped mobilise more than US\$ 400 million in debt financing, mainly from pension funds
- a MIGA cross-border risk guarantee for foreign investors.

#### Technical assistance and advisory services

- IBRD, IFC and IADB support for the creation of new regulations for issuing and investing in infrastructure bonds, including the creation of debt funds to facilitate pension investments and training for the pension funds on the infrastructure asset class
- IFC and IBRD support for FDN to strengthen its ability to address market failures
- IFC and IBRD support to improve the PPP legal, regulatory and institutional framework, as well as improved project preparation by standardising PPP documents and structures.

### Outcomes

To date, 19 out of 40 projects planned under 4G have been awarded, corresponding to more than US\$ 10 billion of investment mobilisation. The 4G programme is expected to reduce transport costs by 28 per cent, increase GDP by 1.5 per cent per annum once completed (closer to 3.0 per cent during construction), and give a significant boost to trade, job creation and business growth. The Colombia 4G programme exemplifies how the World Bank Group and IADB's collaboration and a programmatic approach have been able to leverage capital-market and advisory support for strategic financing needs.

Photo credits  
Front: Chris Lawrence/CC BY SA 2.0



## WORLD BANK GROUP

THE WORLD BANK  
IBRD • IDA

IFC  
International  
Finance Corporation

MIGA  
Multilateral Investment  
Guarantee Agency

### MULTILATERAL DEVELOPMENT BANKS' INFRASTRUCTURE COOPERATION PLATFORM: INFRASTRUCTURE INVESTMENT PROJECT BRIEFS

# Croatia: Zagreb International Airport



## Overview

Zagreb International Airport, the largest in Croatia, is a key gateway for tourism and business, making it critical to the country's economy. With a capacity of 2 million passengers per year, however, the airport was unable to keep up with growing demand for airport services. In 2009, the Government of Croatia decided to build and operate a new terminal under a public-private partnership.

The Zagreb Airport International Company (ZAIC) won the tender and took over management of the airport in December 2013. The new terminal was inaugurated in March 2017.

The European Investment Bank (EIB), the International Finance Corporation (IFC), Deutsche Bank and Unicredit Bank Austria provided the project financing.

## Background

Tourism is a major contributor to the Croatian economy and a key driver of employment. The Zagreb International Airport, built in 1962, had undergone several stages of expansion. However, by 2009, it was clear that the passenger terminal, with an annual capacity of 2 million passengers, could no longer accommodate growing market demand. The Government of Croatia held a tender for the design of a new terminal, to be built and managed by a private operator under a public-private partnership.

This example showcases how MDB collaboration supports projects from bid design and procurement to commercial/financial close through advice during the tender process.

### Project description

The project entailed the expansion of capacity at Zagreb International Airport, the country's largest, under a 30-year concession to finance, design, construct and operate a new, state-of-the-art passenger terminal. Under the concession, the operator was also responsible for managing the operation of the entire airport until 2042, including refurbishment and maintenance of runways, the cargo terminal, car parks and future property developments. The project also included the construction of a new 1.8 km access road to connect the new 65,000 m<sup>2</sup> terminal with the local road network. The existing terminal was to be converted and leased for airport users.

The project comprises a total investment of

€331 million: €243 million for the design and construction of the new terminal and €88 million for the maintenance of the airport infrastructure. When completed, it will accommodate five million passengers annually, more than twice the current capacity.

The ZAIC consortium was awarded the concession in February 2012. The agreement was signed with the Croatian Ministry of Maritime Affairs, Transport and Infrastructure of Croatia in April 2012.

Ownership of the consortium is as follows:

- Aéroports de Paris Management, a wholly owned subsidiary of Aéroports de Paris (20.77 per cent)
- Bouygues Bâtiment International, a subsidiary of Bouygues Construction (20.77 per cent)
- the Marguerite Fund (20.77 per cent)
- TAV Airports (15 per cent)
- Viadukt, a Croatian construction company (5.11 per cent).

The consortium took over management of the Zagreb Airport in December 2013.

### MDBs' role

- The EIB supported the airport with a loan of €80 million to finance the first phase of the expansion.
- The IFC committed €54 million to the project, including a loan of up to €35 million and an equity investment of €19 million for a 17.58 per cent stake.
- Deutsche Bank and Unicredit Bank Austria also provided financing of €39.5 million each.

### Outcomes

The project improves a critical component of Croatia's economic infrastructure, supporting tourism, investment and trade.

- It upgrades essential infrastructure without adding a burden to state finances.
- It mobilises €331 million of investment.
- It adds 65,000 m<sup>2</sup> of terminal space.
- It more than doubles passenger capacity from 2 million to 5 million people annually.
- It boosts the tourism sector, a major driver of employment in Croatia, and encourages trade and investment.



## WORLD BANK GROUP

THE WORLD BANK  
IBRD • IDA

IFC  
International  
Finance Corporation

MIGA  
Multilateral Investment  
Guarantee Agency

### MULTILATERAL DEVELOPMENT BANKS' INFRASTRUCTURE COOPERATION PLATFORM: INFRASTRUCTURE INVESTMENT PROJECT BRIEFS

# Senegal: Dakar toll-road extension



## Overview

The Government of Senegal awarded SENAC SA the concession to design, build, finance and operate the extension of the existing Dakar toll road. The extension connects central Dakar with the new international airport and some of the country's other important economic zones. The aim was to spur economic growth, employment and new opportunities that contribute to poverty reduction by facilitating transport between the nation's capital city, key infrastructure and outlying areas.

SENAC was supported by a €76 million debt financing package provided by the African Development Bank (AfDB), the Banking Company of West Africa (CBAO, a major Senegalese commercial bank), the International Finance Corporation (IFC) and the West African Development Bank.

The Multilateral Investment Guarantee Agency (MIGA) is supporting the project with a guarantee underpinning a swap between Standard Bank Plc and the government.

## Background

The Dakar toll road was inaugurated in August 2013 by SENAC, the Senegalese concession company established by French civil-engineering construction company Eiffage. The first greenfield toll-road public-private partnership in West Africa, it was widely considered a flagship project for Senegal and the region, because of its scale and transformational nature, as well as the obstacles overcome to bring the project to fruition – most notably, the resettlement of more than 30,000 people. The country's largest-ever residential resettlement programme was undertaken by the

This project showcases how MDB collaboration facilitates credit enhancement to structure bankable investments.

government and project sponsor in accordance with the IFC's Equator Principles and Performance Standards. The IFC also financed the project as the region's first toll road with full traffic risk borne by the sponsor.

The completion of a major motorway link has played a significant role in the development of Senegal's road network and, more broadly, the economic development of the country through its effect on businesses and the housing market. This important transport project is supporting economic development, in line with the objectives of the Senegal Emergence Plan, under which the country will make significant public investment and mobilise private-sector investment.

### Project description

The 17 km toll-road extension connects the existing motorway to the new international airport located 45 km from Dakar city centre and coastal tourist areas, while also streamlining the road link between Dakar and Thiès, Senegal's second most populous city.

SENAC's contract is a 25-year concession to design, build, operate and maintain the new dual-carriageway toll road. The extension will require around €130 million in total new investment.

### MDBs' role

SENAC was supported by a €76 million debt financing package:

- €50 million was mobilised from the AfDB, CBAO and the Western African Development Bank.
- IFC, as lead arranger and global coordinator, invested a total of €26 million in SENAC, including senior and subordinated long-term debt, for the existing toll road and its extension. IFC will also be the exclusive hedge provider for the financing.

The infrastructure sector, including the toll road, is being supported by a cross-currency swap arrangement.

- MIGA has guaranteed a US dollar cross-currency swap arrangement between Standard Bank PLC and the Government of Senegal. The Ministry of Economy and Finance entered into the swap with Standard Bank as a hedge against currency risk exposure related to a 10-year US\$ 500 million Senegal Eurobond issued in May 2011. The proceeds of the Eurobond were used to finance new infrastructure projects, including the toll road.
- MIGA's guarantee of US\$ 99 million to Standard Bank provides coverage against the non-honouring of sovereign financial obligations for a period of 10 years. Specifically, it insures against the Government of Senegal's failure to honour its obligation to make requisite payments under the swap. The MIGA guarantee helped the government to access the commercial financing needed to fulfil its financial commitments for the toll-road construction and other projects.

### Outcomes

Four years on, the project is a success story: it came into commission on time, traffic has surpassed forecasts and it has had a clear and visible development impact on the local community. It has markedly improved urban mobility by reducing commuting times between central Dakar and its outlying neighbourhoods from more than two hours to less than 30 minutes. This, in turn, has allowed businesses to emerge in both the centre and suburbs of Dakar. Due to the reduction in land costs, thousands of families have gained access to better housing conditions outside of central Dakar's tight and expensive housing market and whole new economic and residential growth areas have sprung up along the motorway route.

Photo credits

Front: Rignese/Creative Commons licence, [creativecommons.org/licenses/by-nd/2.0/](https://creativecommons.org/licenses/by-nd/2.0/)



afdb.org



@AFDB\_Group



ifc.org



@IFC\_org



miga.org



@MIGAWorldBank



worldbank.org



@WorldBank



## WORLD BANK GROUP

THE WORLD BANK  
IBRD • IDA

IFC

International  
Finance Corporation

MIGA

Multilateral Investment  
Guarantee Agency

### MULTILATERAL DEVELOPMENT BANKS' INFRASTRUCTURE COOPERATION PLATFORM: INFRASTRUCTURE INVESTMENT PROJECT BRIEFS

# Mexico: CMSA Manzanillo Port Terminal



## Overview

The CMSA Manzanillo Port Terminal project will add urgently needed capacity to Mexico's largest container port, which serves the two largest population centres and manufacturing regions of Mexico (Mexico City and Guadalajara). The project is intended to improve port productivity, thereby easing congestion and lowering transportation costs. The World Bank Group's International Finance Corporation (IFC) and the Inter-American Development Bank (IDB) jointly provided US\$ 260 million in financing for this project.

## Background

Mexico is the second-largest economy in Latin America and is among the top 15 countries in global trade, with a volume of US\$ 786 billion (World Trade

Organization, Country Profile, 2015). Its port sector is one of the fastest-growing in Latin America; container volumes grew at a compound annual growth rate of 12 per cent per annum between 2003 and 2013. This growth, particularly on the Pacific coast, is driven by a structural shift in Mexican trade towards greater sourcing of products from Asia, particularly China. Mexico's Pacific coast ports are also major transshipment hubs handling all volumes from Central America, which account for about a quarter of total traffic.

Mexico's two busiest Pacific ports, Manzanillo and Lazaro Cardenas, together accounted for two-thirds of total Mexican container traffic and 94 per cent of the Pacific coast traffic in 2013. Although the Port of Manzanillo is Mexico's largest container port, it has been operating

This project showcases how the MDBs' collaboration supports the development and implementation of infrastructure investment, through financing for critical port infrastructure.

at full capacity, which has led to congestion and slower growth rates over the last decade. Moreover, there were draft, storage and equipment limitations at the port which prevented shipping lines from bringing in the larger-sized container vessels plying the trade today.

### Project description

Contecon Manzanillo S.A., the project company, is developing a greenfield container terminal in the Port of Manzanillo in the State of Colima. CMSA is a wholly owned subsidiary of International Container Terminal Services, Inc. Philippines. The terminal will be developed under a 34-year agreement granted by the port administration of Manzanillo.

The CMSA Manzanillo Port Terminal project is the only planned terminal development in Manzanillo for the foreseeable future and will add urgently needed capacity to the port, given that the three existing operators operate at nearly full capacity. The project will also offer more high-quality services than the existing operators given its deeper draft, brand new equipment and large yard area which provides ample storage space. The port will be able to receive the larger container ships that are expected to be deployed on trans-Pacific routes.

The CMSA terminal is being developed in three phases. Phase 1A was completed in September 2013 with an annual capacity of 450,000 TEUs and is operational. Phase 1B was undertaken during 2014-15 and involved the construction of additional ground slots in the storage yard and purchase of additional equipment to increase annual capacity to 760,000 TEUs. Phase 2 will be developed between 2016 and 2021 and will include the installation of additional cranes and expansion of storage areas. On completion (by the end of 2021), the terminal will have an annual handling capacity of 1.35 million twenty-foot equivalent units (TEUs) and will be able to serve the latest generation of container ships, including super post-Panamax ships and larger vessels expected to be deployed in the future.

### MDBs' role

Project costs of US\$ 567 million were financed by direct and syndicated loans supported by multilateral and bilateral international financial institutions including:

- a US\$ 65 million A loan from IFC
- a US\$ 65 million A loan from the IDB
- a US\$ 25 million loan from the China Co-Financing Fund for Latin America and the Caribbean under the management of the IDB
- a US\$ 52.5 million B loan from KfW IPEX Bank GmbH under IFC and IDB syndication.

In addition, Standard Chartered Bank provided a loan of US\$ 52.5 million under IFC and IDB syndication.

### Outcomes

The CMSA Manzanillo Port Terminal project will help strengthen the port sector in Mexico by increasing container handling capacity by 1.35 million TEUs, improving port productivity, easing congestion and lowering transportation costs. This will promote greater competition, benefiting shippers, shipping lines and consumers alike. As such, the project will help increase Mexico's competitiveness and indirectly drive trade growth by developing deep water berths and introducing modern, efficient container handling capacity to better serve exports and imports.

The project employed 150 workers during the initial construction and expects to employ over 850 operational and managerial workers by 2020 (nearly 300 were hired by the end of 2016). The project will also benefit the State of Colima with concession fees and tax payments, and will thus help free up the fiscal space necessary for other critical priorities.

Photo credits

Front: Rich Young / Creative Commons license, [creativecommons.org/licenses/by/2.0](https://creativecommons.org/licenses/by/2.0)





## WORLD BANK GROUP

THE WORLD BANK  
IBRD • IDA

IFC

International  
Finance Corporation

MIGA

Multilateral Investment  
Guarantee Agency

MULTILATERAL DEVELOPMENT BANKS'  
INFRASTRUCTURE COOPERATION PLATFORM:  
INFRASTRUCTURE INVESTMENT PROJECT BRIEFS

# Myanmar: Ooredoo 3G network financing



### Overview

Myanmar emerged from nearly 50 years of military rule to become one of Asia's newest democracies. It launched a broad reform effort, including its telecommunications, for which it needed significant external investment. Following a successful competitive bid, the government awarded Ooredoo Myanmar (OML) one of two mobile telecommunications licences. After securing US\$ 150 million loans from the Asian Development Bank (ADB) and the International Finance Corporation (IFC), OML aims to reach 90 per cent of the population, and has already experienced significant penetration in urban and rural areas.

### Background

Myanmar is one of the largest countries in South-East Asia strategically located near China and India. Its economic development was stunted by decades of political instability, civil war, and isolation. After returning to civilian rule in 2016, Myanmar launched new economic policies to transition to a market-oriented economy. With abundant natural resources, fertile farmland, and a historic role as a trading hub, Myanmar has the potential for significant economic growth. However, poverty is widespread and infrastructure remains poorly developed.

Myanmar remains one of the poorest and least-connected countries in South-East Asia. The lack of investment in ICT infrastructure was apparent in the

This project showcases how the MDBs' collaboration supports sectoral reform in the telecommunications sector which remains a critical piece of the connectivity push, boosting national competitiveness.

low penetration of telecommunications services—in 2013, only seven in 100 persons had access to a mobile phone; 0.5 in 100 had fixed-line telephone access; and 0.7 in 100 had a broadband internet subscription.

Due to lack of investment and competition, the cost of a mobile connection was prohibitively expensive for the average citizen, and coverage was biased toward larger cities even though the majority of the population lives in rural areas.

With assistance from the World Bank Group (including funding from the Public-Private Infrastructure Advisory Facility-PPIAF), the government undertook significant ICT reforms such as restructuring of the incumbent operator and regulator, introducing competition, and opening the sector to foreign investment. In February 2014, following a competitive international tender that attracted over 90 applicants, the government awarded telecommunications operating and associated spectrum licences to Qatar's Ooredoo Group and Norway's Telenor Group. Factors in the award decision included the technical and financial capability to quickly roll out a telecommunications network nationally and a commitment to offer affordably priced services. Achieving these ambitious targets will expand access to more than 90 per cent of the population, with an estimated 35 million people connecting through mobile services for the first time.

Ooredoo Myanmar (OML), a subsidiary of Ooredoo QSC, is a Qatar-based company engaged in the provision of domestic and international telecommunications services to over 107 million people across 15 countries in Asia, the Middle East, and North Africa. OML sought debt financing from the ADB and IFC to set up and roll out its telecommunications network and services, a greenfield operation in Myanmar.

### Project description

The project consists of rolling out an advanced third-generation (3G) mobile telecommunications network across the country under a 15-year operating and associated spectrum licence. OML will build, own, and operate the telecommunications network providing a full range of fixed and mobile telecommunications services nationwide. The total cost of the project, including license fees, is estimated to be US\$ 2.9 billion over a five-year period.

OML officially launched its services in August 2014 as the first international operator to begin commercial operations and plans to deploy more than 10,000 kilometres of fibre cable and more than 7,000 telecommunications towers that will reach rural, remote, and low-income areas. It will also develop several mobile applications for banking, agriculture, and health to enhance access to basic services.

ADB and IFC each provided a US\$ 150 million debt facility to finance in part the project's startup costs and the rollout of the 3G network in Myanmar, and mobilised additional financing.

### MDBs' role

Multilateral support for the project was as follows:

- ADB provided a US\$ 150 million direct loan and plans to implement a US\$ 1 million technical assistance to deploy renewable energy solutions to 1,500 telecommunications tower sites in rural Myanmar to reduce diesel-burning power generation and avoid 10,000 tonnes of CO<sub>2</sub> emissions annually. This technical assistance is funded by the Canadian Climate Fund for Private Sector in Asia under the Clean Energy Financing Partnership Facility.
- IFC provided a US\$ 150 million direct loan.

### Outcomes

Launching in three key cities, Yangon, Nay Pyi Taw and Mandalay, OML sold more than one million SIM cards within three weeks of launch, and aims to secure 13 million subscribers by 2019. The project is expected to:

- provide mobile phone and Internet services to 77 per cent of Myanmar's population
- provide service to both urban and rural areas, thereby opening the doors to mobile banking services
- increase competition in the sector, thereby driving down costs to the consumer
- provide a positive demonstration effect for infrastructure projects in the country
- support local firms—more than 700,000 small and medium-sized enterprises are expected to be part of OML's distribution network

Total penetration of mobile telecommunications services in Myanmar, by all providers, skyrocketed from 20 to 60 per cent between 2013-16.



**European Bank**  
for Reconstruction and Development

## WORLD BANK GROUP

**THE WORLD BANK**  
IBRD • IDA

**IFC** | International  
Finance Corporation

**MIGA** | Multilateral Investment  
Guarantee Agency

MULTILATERAL DEVELOPMENT BANKS'  
INFRASTRUCTURE COOPERATION PLATFORM:  
INFRASTRUCTURE INVESTMENT PROJECT BRIEFS

# Turkey: Elazig Hospital



### Overview

The Elazig Hospital PPP project will increase the access to quality health services for 1.6 million people in Eastern Anatolia. The project is part of the government of Turkey's ambitious health PPP programme that aims to build around 30 health campuses, and by doing so, increase the access and quality of secondary and tertiary levels health services in the country. The European Bank for Reconstruction and Development (EBRD), the World Bank Group's International Finance Corporation (IFC) and Multilateral Investment Guarantee Agency (MIGA) and other development finance institutions are jointly providing financial support to this project.

### Background

Turkey is the 17th largest economy in the world. Since 2000, it has made impressive progress in reducing poverty. According to the World Bank, the incidence of poverty fell from 44 to 22 per cent between 2000–12; extreme poverty levels fell to an even greater extent, from 13 to 5 per cent. On the health front, the government of Turkey adopted the Health Transformation Program in 2003, which has been instrumental in achieving universal health coverage, increasing the use of healthcare services and improving health outcomes for all population segments regardless of their income status. By 2011, life expectancy grew

This project showcases how the MDBs' collaboration supports a major PPP investment programme, with extensive policy dialogue to improve the manner in which risks are allocated, as well as the innovative use that combines guarantees and liquidity facilities to credit enhance PPPs.

from an average of 71.0 to 74.5 years, and infant mortality rates declined among the poorest fifth of the population to levels comparable with the richest fifth.

Despite these advances, new challenges have emerged, including the rise in non-communicable diseases (cardiovascular disease, diabetes and cancer) and of substance addiction requiring increased access to healthcare services at the secondary and tertiary levels. In response, the government embarked on a multi-pronged approach to improve population coverage and quality of services, including building new public hospitals and refurbishing existing ones. One way in which the government is pursuing this is through an ambitious €15 to €20 billion PPP investment programme to build close to 30 integrated health campuses around the country.

### Project description

The project will provide access to healthcare services to 1.6 million people in Elazig, a city of 350,000 in Eastern Anatolia, and the surrounding provinces. It will have more than 1,000 beds divided among different health facilities including a general hospital, a women's/maternity and children's hospital, a high-security forensic psychiatric hospital, and a dental clinic.

The 28-year concession was awarded by the Turkish Ministry of Health to ELZ Saglik Yatirim, a consortium consisting of Meridiam, Rönesans, and the Turkish companies Sila Group and S.A.M. Yapi Sanayi ve Ticaret Ltd to design, build, finance, equip and maintain an integrated hospital campus in Elazig.

With a debt to equity ratio of 80:20, the debt portion of the €360 million greenfield hospital PPP was financed through the issuance of a €288 million bond by ELZ Finance S.A., who will on-lend the proceeds to the project consortium. The bond is the first "green and social" project bond in the history of Turkey as verified by Vigeo Eiris, a major environmental, social and governance rating company. Furthermore, the project bond benefits from the first liquidity-backed political risk insurance for a greenfield project bond offered by MIGA and the EBRD. This credit enhancement contributed to the Baa2 rating of the bond by Moody's, which is two notches higher than Turkey's sovereign debt rating. This credit enhancement contributed to the Baa2 rating of the bond by Moody's, which, following a two notch downgrade to the sovereign rating of Turkey since the time of closing at the end of 2016, makes this PPP project rating now stand at four notches above Turkey's sovereign rating; a testament to the robustness of the product.

The programme has reached a critical milestone, with the opening and commissioning of the first hospitals, Yozgat and Mersin Hospital PPPs, which became operational in January and February of 2017, respectively. With the first availability payments performed by Ministry of Health, the operations period is now tested and the programme has reached a mature stage. The project also recently won the IJGlobal Awards 2016 for European Social Infrastructure.

### MDBs' role

Development financing support was provided to the project bond issuance including bond subscription by the bilateral institutions Proparco and FMO. Multilateral support was provided as follows:

- €80 million IFC investment in the project bond on a parallel basis in an unenhanced and unrated tranche
- €89 million EBRD liquidity facilities supporting the construction and operational phases of the project which complements MIGA's political risk cover
- a 20-year MIGA political risk guarantee in support of the investment-grade portion of the bond (€208 million) and MIGA guarantee to equity investment in the project.

Lastly, both the World Bank's International Bank for Reconstruction and Development and the EBRD are assisting the Ministry of Health to build the necessary institutional capacity for PPP contract management and monitoring as part of their broader support to the government of Turkey's health reform programme.

The transaction represents a milestone in the cooperation between IFIs for the creation of an innovative new risk mitigation instrument.

### Outcomes

The main expected development benefits of the project consist of improving patient access to high quality health services for 1.6 million people, realigning capacities with country needs and creating a demonstration effect applicable to other sectors in Turkey if successfully implemented.

The project anticipates employing a maximum of 2,000 people during the construction period and 3,000 during the operational period, including approximately 1,900 health service and administrative personnel employed by the Ministry of Health and 1,250 service and administrative personnel employed by the project consortium and its service providers.

Photo credits  
Front: Simone D. McCourtie / World Bank Group

# Annex C: Outline of the G20 Principles for Quality Infrastructure Investment

## Principle 1: Maximising the positive impact of infrastructure to achieve sustainable growth and development

### 1.1. Setting off a virtuous circle of economic activities

The aim of pursuing quality infrastructure investment is to maximise the positive economic, environmental, social, and development impact of infrastructure and create a virtuous circle of economic activities, while ensuring sound public finances. This virtuous circle can take various forms. New jobs are created during construction, operation and maintenance of infrastructure, while positive spillover effects of infrastructure stimulate the economy and lead to more demand for jobs. Advanced technology and know-how may be transferred voluntarily and on mutually agreed-upon terms. This can result in better allocation of resources, enhanced capacities, skills upgrade and improvement of productivity for local economies. This impetus would improve the potential for economic growth, leading to widening of the investor base, crowding-in more private investment, and resulting in further improvement in economic fundamentals. Such a virtuous circle of economic activities would be further secured through enhancing accessibility to, and national, regional, and global connectivity of, infrastructure, based on consensus among countries. This would facilitate trade, investment, and economic development. All these expected outcomes of the investment should be considered in the project design and planning.

### 1.2. Promoting sustainable development and connectivity

Infrastructure investment should take into account economic, environmental and social, and governance aspects, and be guided by a sense of shared, long-term responsibility for the planet consistent with the 2030 Agenda for Sustainable Development, national and local development strategies, and relevant international commitments, and in the spirit of extensive consultation, joint efforts and shared benefits. The facilities and services of infrastructure should have sustainable development at their core and need to be broadly available, accessible, inclusive and beneficial to all. Domestic resource mobilisation is critical to addressing the infrastructure financing gap. Assistance for building should be provided to developing countries with the participation of international

organisations. Quality infrastructure investment also needs to be tailored to individual country conditions and consistent with local laws and regulations.

## Principle 2: Raising economic efficiency in view of life-cycle cost

Quality infrastructure investment should attain value for money and remain affordable with respect to life-cycle costs, by taking into account the total cost over its life-cycle (planning, design, finance, construction, operation and maintenance (O&M), and possible disposal), compared to the value of the asset as well as its economic, environmental and social benefits. Using this approach helps choose between repairing or upgrading an existing infrastructure or launching a new project. Project preparation, as set out in the *G20 Principles for the Infrastructure Project Preparation Phase* is crucial in this regard.

### 2.1. The life-cycle costs and benefits of infrastructure investments should be taken into consideration in ensuring efficiency.

Construction, O&M and possible disposal costs should be estimated from the onset of the project preparation stage. The identification of mechanisms to address cost overruns and cover ongoing O&M costs is critical to ensure financial sustainability at project level. Cost-benefit analysis should be used over the life-cycle of infrastructure projects.

### 2.2. Infrastructure projects should include strategies to mitigate the risks of delays and cost overrun, and those in post-delivery phases.

Necessary elements to achieve this objective can include: (i) broad stakeholder engagement throughout the project; (ii) expertise in planning, operations, and risk allocation/mitigation; and (iii) application of appropriate safeguards and instruments.

### 2.3. Innovative technologies should be leveraged through the life-cycle of infrastructure projects, where appropriate, to raise economic efficiency for existing and new infrastructure.

Advanced technologies are an important component for new and existing assets and can help to improve data availability to monitor infrastructure use, performance, and safety.

### **Principle 3: Integrating environmental considerations in infrastructure investments**

Both positive and negative impacts of infrastructure projects on ecosystems, biodiversity, climate, weather and the use of resources should be internalised by incorporating these environmental considerations over the entire process of infrastructure investment, including by improving disclosure of these environment related information, and thereby enabling the use of green finance instruments. Infrastructure projects should align with national strategies and nationally determined contributions for those countries determined to implement them, and with transitioning to long term low emissions strategies.

#### **3.1. These environmental considerations should be entrenched in the entire life-cycle of infrastructure projects.**

The impact on the environment of the development, operation and maintenance, and possible disposal of the infrastructure project should be continuously assessed. Ecosystem-based adaptation should be considered.

#### **3.2. The environmental impact of infrastructure investment should be made transparent to all stakeholders.**

This will enhance the appreciation of sustainable infrastructure projects and increase awareness of related risks.

### **Principle 4: Building resilience against natural disasters and other risks**

Given the increasing number and heightened magnitude of natural disasters and slow onset of environmental changes, we face the urgent need to ensure long-term adaptability and build resilience of infrastructure against these risks. Infrastructure should also be resilient against human made risks.

#### **4.1. Sound disaster risk management should be factored in when designing infrastructure.**

A comprehensive disaster risk management plan should influence the design of infrastructure, the ongoing maintenance and consider the re-establishment of essential services.

#### **4.2. Well-designed disaster risk finance and insurance mechanisms may also help incentivise resilient infrastructure through the financing of preventive measures.**

### **Principle 5: Integrating social considerations in infrastructure investment**

Infrastructure should be inclusive, enabling the economic participation and social inclusion of all. Economic and social impacts should be considered as an important component when assessing the quality of infrastructure investment, and should be managed systematically throughout the project life-cycle.

#### **5.1. Open access to infrastructure services should be secured in a non-discriminatory manner for society.**

This is best achieved through meaningful consultation and inclusive decision-making with affected communities throughout the project life cycle, with a view to securing non-discriminatory access to users.

#### **5.2. Practices of inclusiveness should be mainstreamed throughout the project life cycle.**

Design, delivery, and management of infrastructure should respect human rights and the needs of all people, especially those who may experience particular vulnerabilities, including women, children, displaced communities or individuals, those with disabilities, indigenous groups, and poor and marginalised populations.

#### **5.3. All workers should have equal opportunity to access jobs created by infrastructure investments, develop skills, be able to work in safe and healthy conditions, be compensated and treated fairly, with dignity and without discrimination.**

Particular consideration should be given to how infrastructure facilitates women's economic empowerment through equal access to jobs, including well-paying jobs, and opportunities created by infrastructure investments. Women's rights should be respected in labor market participation and workplace requirements, including skills training and occupational safety and health policies.

**5.4. Safe and healthy occupational conditions should be put in place, both at the infrastructure site and in the surrounding communities.**

Maintaining occupational safety and health conditions would also present a huge economic advantage worldwide.

**Principle 6: Strengthening infrastructure governance**

Sound infrastructure governance over the life cycle of the project is a key factor to ensure long-term cost-effectiveness, accountability, transparency, and integrity of infrastructure investment. Countries should put in place clear rules, robust institutions, and good governance in the public and the private sector, reflecting countries' relevant international commitments, which will mitigate various risks related to investment decision-making, thus encouraging private-sector participation. Coordination across different levels of governments is needed. Capacity building is also key in ensuring informed decision making and effectiveness of anti-corruption efforts. In addition, improved governance can be supported by good private sector practices, including responsible business conduct practices.

**6.1. Openness and transparency of procurement should be secured to ensure that infrastructure projects are value for money, safe and effective and so that investment is not diverted from its intended use.**

Transparent, fair, informed and inclusive decision-making, bidding and execution processes are the cornerstone of good infrastructure governance. Greater transparency, including on terms of financing and official support will help ensure equal footing in the procurement process. A wide range of stakeholders such as users, local population, civil society organisations and private sector, should be involved.

**6.2. Well-designed and well-functioning governance institutions should be in place to assess financial sustainability of individual projects and prioritise among potential infrastructure projects subject to available overall financing.**

In addition to project-level finance sustainability, the impact of infrastructure projects on macro-level debt sustainability, including possible contingent liabilities, needs to be considered and transparent, given that infrastructure investment can have significant impact on public finance. This will contribute to attaining value for money that considers life-cycle cost, promoting fiscal sustainability, saving fiscal space for future potential projects, and crowding in more private investments. A functionally integrated and transparent decision-making framework for infrastructure investments that considers both O&M and new investments to ensure efficient resource allocation.

**6.3. Anti-corruption efforts combined with enhanced transparency should continue to safeguard the integrity of infrastructure investments, which are potentially large-scale, complex, long-term, and with a wide range of stakeholders.**

Infrastructure projects should have measures in place to mitigate corruption risks at all project stages.

**6.4. Access to adequate information and data is an enabling factor to support investment decision-making, project management and evaluation.**

Access to information and data needs to be available in-country to help undertake cost and benefit analyses, supports government decision-making and policy monitoring, and facilitates project preparation processes and management.

European Bank for Reconstruction and Development  
One Exchange Square  
London EC2A 2JN  
United Kingdom  
Tel: +44 20 7338 6000  
[www.ebrd.com](http://www.ebrd.com)