

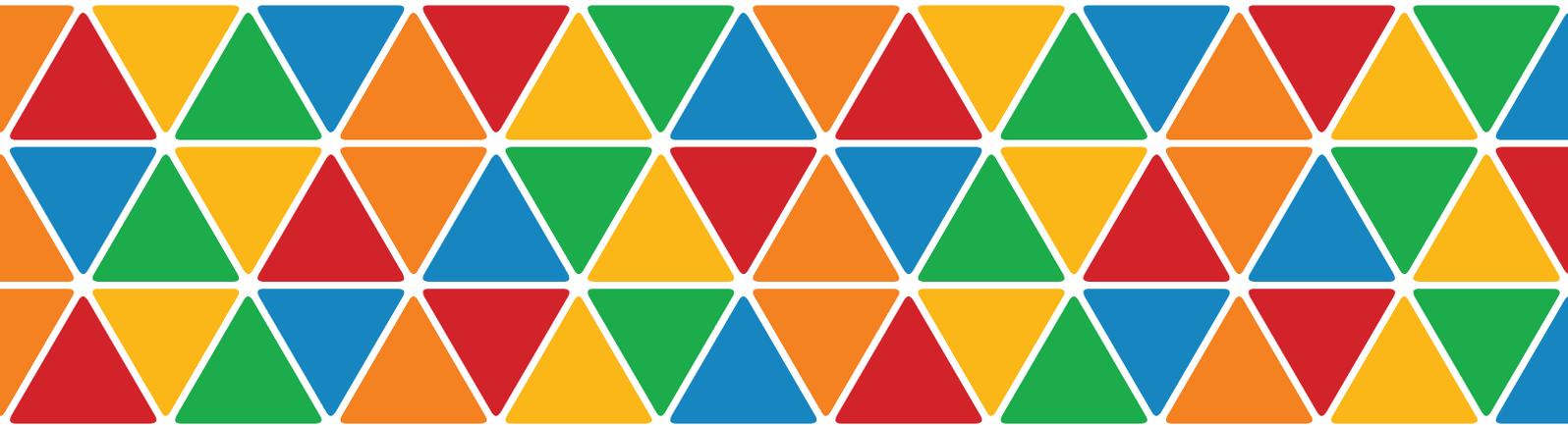


**GOOD PRACTICES ON
PUBLIC-PRIVATE PARTNERSHIP
FRAMEWORKS**

2018 UPDATE



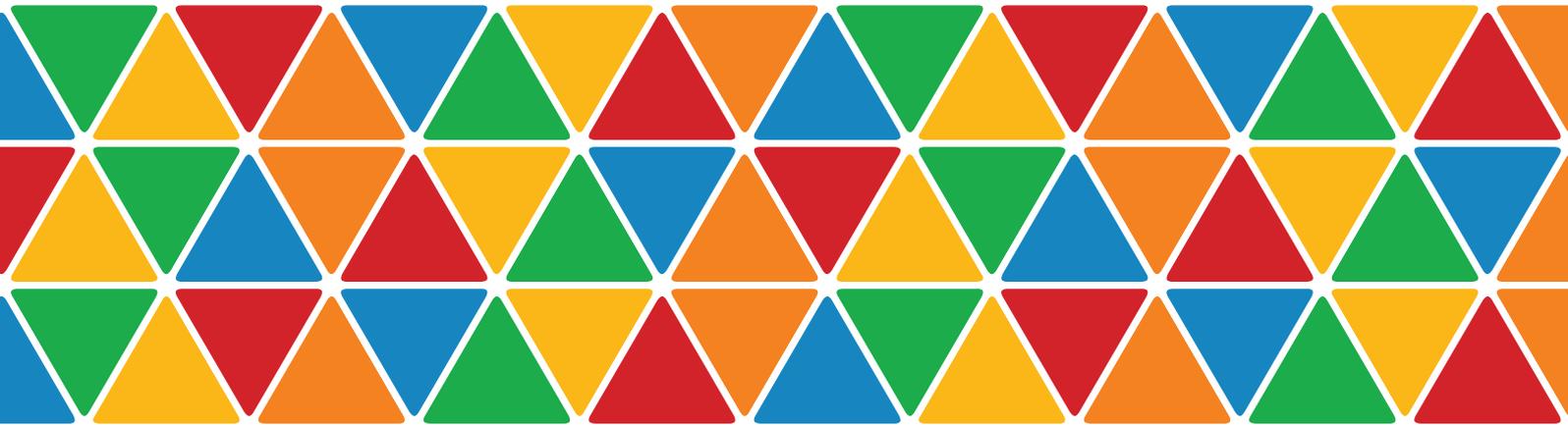
REPUBLIC OF SOUTH AFRICA





**GOOD PRACTICES ON
PUBLIC-PRIVATE PARTNERSHIP
FRAMEWORKS**

2018 UPDATE



REPUBLIC OF SOUTH AFRICA



GOOD PRACTICES ON PUBLIC-PRIVATE PARTNERSHIP FRAMEWORKS

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**GOOD PRACTICES ON
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FRAMEWORKS**

FOREWORD BY MINISTER



Nhlamhla Nene | Minister of Finance | South Africa

"Developing countries face challenges of infrastructure development due to insufficient long-term financing and foreign direct investment, especially investment in capital stock. This constrains global aggregate demand. BRICS cooperation towards more productive use of global financial resources can make a positive contribution to addressing this problem". - BRICS eThekweni Leaders' Declaration (Durban, South Africa, 2013)

The 2018 BRICS Summit in South Africa is an important milestone for the formation as a whole. It marks the first decade of multilateral partnership in global governance reforms and multi-sector cooperation. One of the most important areas of our BRICS strategic partnership is infrastructure investment. This is because modern and sustainable infrastructure is critical for meeting the rising aspirations of our countries and the ability of our nations to achieve the Sustainable Development Goals (SDGs).

The New Development Bank (NDB) is a proud outcome of our collaborative efforts on infrastructure. The Bank, together with its Africa Regional Centre (ARC), is operational and is making significant investments in all our member countries. The NDB is indeed a welcomed complement to our national efforts of building modern infrastructure that is required to raise our economies' productive potential, stimulate new industries and create jobs.

The partnerships between our governments, the NDB and other multilateral development banks (MDBs) remains important, but will not be enough to close the infrastructure financing gap in BRICS and other developing countries. The World Bank estimates the investment gap in emerging market economies at \$1.3 trillion per year (World Bank, 2018)¹. We have to address the barriers to private sector investment in public infrastructure in order to make a serious impression on the current financing gap. In addition to funding, the expertise of the private sector is critical in ensuring that our infrastructure is resilient to climate shocks and is adaptive to the Fourth Industrial Revolution (4IR).

BRICS Leaders stated in their 2013 Summit Declaration in eThekweni, Durban that "BRICS cooperation towards more productive use of global financial resources" should help address infrastructure problems in developing countries. In line with this Leaders' statement, the decision that we took as BRICS Finance Ministers and Central Bank Governors in 2016 to cooperate on Private Public Partnerships (PPPs) reflects our efforts to enhance our partner with the private sector in building modern, sustainable and inclusive infrastructure. The BRICS Taskforce on PPPs which is managing this work is having fruitful engagements and is fostering information and knowledge sharing between our countries.

¹ <http://www.worldbank.org/en/topic/financialsector/brief/infrastructure-finance>

This publication of the BRICS PPP Good Practices, highlights PPP Frameworks in the BRICS countries and shares some interesting case studies of successful collaboration between BRICS governments and the private sector in developing public infrastructure.

I hope that this work on PPPs within our BRICS forum, together with the work that the Argentinian Presidency is championing in the G20 on infrastructure as an asset class, shall help to scale up the much needed private capital for public infrastructure investment in our countries.

NHLANTHA NENE

Minister of Finance

South Africa

1. BACKGROUND

This is the second publication of our work on the BRICS Good Practices on Public-Private Partnership (PPP) Frameworks. This cooperation on PPP Frameworks forms an important part of the growing partnership on infrastructure cooperation within the BRICS formation. Other critical elements of the BRICS cooperation on infrastructure includes the New Development Bank (NDB) and the growing bilateral investment relations between our countries.

Lack of adequate financing for infrastructure continues to be one of the binding constraints for growth in BRICS and other developing countries. Addressing this constraint for BRICS countries will not only address economic growth in our member countries, but will have positive spillovers to the global economy. This is because of the significance of the BRICS economies in the global economy. According to IMF's estimates, the BRICS countries have contributed more than 50% of world economic growth during the last 10 years.

BRICS governments, together with state owned enterprises (SOEs), have played a very significant role in building the current stock of infrastructure that is propelling growth in our economies. However, due to limited fiscal space, public finance is insufficient to meet our demand for infrastructure development. It is well recognized that the private sector plays an important role in delivering efficiently high-quality public goods and public services. Therefore, as an innovative way to bridge the infrastructure investment gap, Public-Private Partnership (PPP) improves the efficiency and quality of public goods and public services, realizes the ideal of People First and promotes sustainable development. PPP is being promoted by international cooperation mechanism (G20, APEC) and main multilateral institutions (World Bank Group, ADB, IADB, AFDB and UN, etc.).

The BRICS countries have been successful in promoting the PPP model by setting up regulatory and institutional frameworks, developing demonstration projects, providing financial support, etc. to enhance their PPP enabling environment. They have applied PPP widely, achieved good results and gained valuable experience.

Brazil government amended the PPP Act in 2014 to clarify that all levels of government (federal, states and municipalities) could allocate up to 5% of its net fiscal revenue in PPP projects. In order to develop infrastructure, Brazil took a series of positive measures to encourage investment. In 2016, Brazil created a new federal unit to improve PPP models.

Russia established a solid foundation with 2005 Concession Federal Law and 2015 Public-Private Partnership Federal Law for projects preparation, drafting and signing of agreements, risk sharing, dispute resolution and attracting foreign investments.

India has systematically rolled out a Public Private Partnership (PPP) program for the delivery of high-priority public utilities and infrastructure and has developed what is perhaps one of the largest PPP Programs in the world, with over 1300 PPP projects at various stages of implementation. As per the 2015 Infrascopie Report of the Economist Intelligence Unit, "Evaluating the environment for PPPs in Asia-Pacific 2014", India ranks first in "Operational Maturity" for PPP projects, third for sub-national PPP activity and fifth overall in terms of having an ideal environment for PPP projects.

China's PPP is seen not only as a way of financing, but also a reform to China's existing institutional system, and a supply-side structural reform of public services. Since 2014, the Chinese government has promoted a new round of PPP reform and achieved fast development across the country. According to the data in the National PPP

Information Platform (a PPP project information database built by MOF, China), as of the end of December 2016, there were 11,260 projects in the database nationwide with the total investment of 13.5 trillion RMB.

South Africa established PPP Unit to develop the policy/regulatory framework for PPP and prepare guidelines and manuals on the regulatory requirements among others. South Africa enacted a series of regulatory framework for PPP, including Public Finance Management Act, Treasury Regulation 16 for PPPs and Municipal Finance Management Act. There are 26 successfully concluded PPP deals in the market, over 50 registered projects in different phases of the project cycle. For PPP in South Africa, one of the key challenges is ensuring that the concluded deals are successfully implemented according to the terms of the final agreement.

(Please see Annex 1 for a review of the PPP environment of BRICS countries).

2. SIGNIFICANCE

The PPP development in the BRICS countries has made notable progress. However, the cooperation mechanism and effective communication are lacking among them. To respond to the theme of 2017 BRICS Summit—Stronger Partnership for a Brighter Future and to meet the large demand for both infrastructure and public service investment, members reached consensus on PPP project cooperation, and agreed to establish a temporary task force to conduct technical discussion on various ways of cooperation, including utilizing existing facilities of the MDBs based on national experiences, exploring the possibility of establishing a new PPP Project Preparation Fund and other options to be engaged in delivering infrastructure and public services, to enhance the sustainable development of the economy, and to meet the 2030 Agenda for Sustainable Development of the United Nations.

3. USE BRICS PPP GOOD PRACTICES AS A PLATFORM FOR COOPERATION

To enhance the exchange of PPP practices and experiences, based on the PPP practices of the BRICS countries and the good practices concluded by international multilateral/bilateral organizations, the BRICS countries initiate the BRICS PPP Good Practices, which consists of government support, regulatory framework, institutional arrangement, capacity enhancement and project management. The BRICS PPP Good Practices is an open, non-binding and referential collection of experience for the BRICS countries and other developing countries and emerging markets. It is a living document that can be updated following by further interaction within the BRICS and could also serve as a platform for strengthening PPP network of BRICS members.

4. BRICS PPP GOOD PRACTICES

4.1 Government Support

PPP model is not only a tool for financing, but also a new concept of public governance and a measure of supply-side structural reform. PPP plays an important role in improving the quality and efficiency of delivering public goods and services. Government's emphasis on promoting PPP in infrastructure and public service and on giving full play to the market could send a positive signal to the market, enhance the confidence of all stakeholders to participate in PPP, and create a stable and long-term PPP market. The development of PPP would improve the socialization of public service and help improve market-orientation as well as law and governance system of the BRICS countries.

4.2 Regulatory Framework

In the top-level design of PPP, considering the BRICS countries' actual situations, a well-defined regulatory framework including a set of supporting policies should be built up based upon learning from good experience and practices from countries that have a well-developed PPP market, and outcomes absorbed from international organizations. It is necessary to converge the approaches to PPP operation, Value for Money evaluation, fiscal affordability assessment, procurement, and contract management, and clarify the roles and responsibilities of all stakeholders. To create an enabling market environment, the concepts of lifecycle project management, risk sharing and performance-based payment should be emphasized to ensure that PPP projects be conducted properly.

4.3 Institutional Arrangement

4.3.1 Building up PPP institutions

It is necessary to set up a central PPP unit to fulfill the obligations of policy research, project management, promotion, capacity building, information collection and disclosure, international exchanges, etc. Local governments could establish corresponding PPP units to enhance its own capacity serving market players. For preventing risks, supervision institutions should be assigned to monitor PPP projects through their whole lifecycle.

4.3.2 Conducting training program

It is useful to conduct regular PPP trainings, experience sharing workshops and forums to the public implementing institutions, third-party consulting agencies, enterprises, financial institutions, etc. in order to raise their PPP awareness, knowledge, and practical capability, etc.

4.4 Incentive Measures

4.4.1 Policy support

To optimize the environment for PPP projects financing, the BRICS countries' governments have issued special supporting policies for promoting PPP. The central and the local government could set up PPP preparation fund and PPP financing fund, and issue tax incentives policies and financing supporting policies, etc. to support the development and implementation of PPP projects.

4.4.2 Innovation of financing

It is important to innovate the financing product and market by using instruments like fund, loan, bond, asset securitization and project financing to facilitate PPP financing so as to reduce financing cost and financing/refinancing risk, and form a positive interaction between PPP projects and financial market.

4.4.3 Project demonstration strategy

It is worth to select high-quality PPP projects as national demonstration projects to guide the regulated operation of PPP projects, gather practical experience, and disseminate good practices. A successful demonstration project can play a role as a lighthouse, which teaches the stakeholders of PPP projects in the region or within the same sector how to develop and implement PPP project properly, and assists local government to improve its top-level design. Meanwhile, it is recommended to encourage government, industry and research institution together to promote PPP and explore new areas, which are suitable for applying PPP model, like new-type urbanization, integrated environmental protection, etc.

4.4.4 Use of consultancy expertise

It is important to take full advantage of third-party consulting agencies for providing legal, financial, engineering, management, and financial services, like hiring legal and project-cost consultancy company to prepare feasibility study report, implementation program.

4.5 Project Management

4.5.1 Unified project operation process

Although PPP projects have various models and types, developing a unified PPP project operation process, including project identification, preparation, procurement, implementation and transfer, will help practitioners understand the PPP project development process in order to improve the quality and efficiency of project development, reduce transaction costs, increase the attraction of the private sector, and promote PPP market development orderly.

4.5.2 Management of government's PPP expenditure

Government should monitor and control its PPP expenditure strictly, incorporate its PPP expenditure in its budgetary management, mid-term and long-term fiscal planning and its financial report. To achieve the goal of improving public service, government should insist on performance-based payment.

4.5.3 Value for Money evaluation and fiscal affordability assessment

In the project preparation stage, it is essential to carry out Value for Money evaluation and fiscal affordability assessment to promote scientific decision-making. Value for Money evaluation is an important instrument for risk allocation and cost calculation in the whole project lifecycle, and a key indicator for PPP suitability decision and performance evaluation. Fiscal affordability assessment acts to identify and measure the PPP expenditures of local government, evaluate the impact of implement of PPP projects on local government's annual financial expenditures in current year and subsequent years. Both of them help local government evaluate and manage

its financial expenditures and potential financial risks so that local government can implement PPP projects orderly, comply with its contractual obligations effectively, and optimize public resource allocation.

4.5.4 Procurement

The government should regulate PPP procurement procedure. A transparent, fully competitive and appropriate procurement (including competitive bidding, competitive consultation, etc.) could result in selecting the best private partner with strong comprehensive abilities, and build up an equal cooperation mechanism between the public and the private.

4.5.5 Transparency

It is meaningful to promote information disclosure throughout the whole lifecycle of PPP projects, i.e. disclosing business case, Value for Money evaluation report, fiscal affordability assessment report, contract and relevant information of each specific PPP project, to improve information asymmetry among the public sector, the private sector and the public, to facilitate all stakeholders to access to PPP project information. The transparency of PPP projects could optimize project development and implementation, guarantee the right of the public to know, and create an open, transparent, fair, credible and regulated PPP market.

4.5.6 Internet-based PPP information management

It is useful to establish an overall Internet-based PPP information management platform to optimize the development, implementation, operation and management of PPP projects by collecting, disclosing, analyzing and applying the projects' information and data, and serve the public sector, the private sector and the public in terms of PPP projects' financing, investment, constructor, operation and transfer. Internet-based PPP information management platform can realize instant PPP project information management covering all sectors and setting up connectivity among central government and local governments, carry out big data analytics, facilitate information search, disclosure and statistics, realize dynamic PPP project management through their whole lifecycle, and promote smooth development of PPP market.

5. PPP DEVELOPMENT IN THE BRICS COUNTRIES

5.1 Brazil

The Brazilian Privatization Program (PND) started in 1990. Since then, private investment in logistics infrastructure in Brazil has fluctuated significantly over the past 25 years. The first phase of privatization between 1990 and 1998 included the privatization of existing state companies in mining, steel, telecom and banks. The next stage from 1998 to 2002 was concentrated on infrastructure concessions of toll roads and railways. During this period, there was a significant increase in private investment as concessions were issued.

In 2004, the Brazilian authorities took a series of measures designed to stimulate productive investment. A PPP Act (Law 11.079/04) was enacted, setting up a new type of arrangement (sponsored PPP and administrative PPP) or the construction, maintenance and running of public utilities and infrastructure services. This law complemented the Concessions Act (Law 8987/95) and the Public Procurement Act (Law 8666/93).

In 2006, the federal Government implemented the PPP unit at the Ministry of Planning. It set a process for PPP initiatives and concentrated its work on common concessions in the period 2007-13 for toll roads, airports, energy generation and transmission, as well as oil and gas fields. Most of these deals counted on subsidized credit lines from state owned banks.

In May 2016 a new PPP unit was established, the Investment Partnership Program (PPI). This unit reports to the Presidency of the Republic and is composed by a Board and an Executive Secretariat. The goal of the PPI was to signal a more market-friendly infrastructure policy that was intended to increase competition, in a more transparent way, improving governance and financing conditions. Also, PPI counts with the cooperation of two state enterprises specialized in long-term planning: the Planning Logistics Enterprise (EPL) and the Planning Energy Enterprise (EPE).

New decision instances and a new workflow for the validation of projects have been created. The PPI Board approves the governance and qualifies projects with national priority status. The PPI Executive Secretariat takes care of the coordination of the planning, modelling and auctioning of projects. For that purpose, the Secretariat established an open dialogue with investors, sponsors, financiers and other stakeholders, aiming to improve the projects and the processes.

The PPI Board issues ten guidelines that govern the PPP process for qualified projects, as follows:

1 Concessions will be conducted under maximum technical rigor

The market will only see projects with the robustness, consistency and capacity to bring positive results to society and to investors, preventing the implementation of concessions from being contaminated by distortions that often translate into risks to good governance, such as contract amendments and excessive rebalancing.

2 We will focus on improving services to the people and the productive sector

We want to guarantee the conditions of our logistics and power sector to improve the lives of the population and reduce the cost of our products. We will require improvements that will enhance services according to the demand demonstrated in each project.

3 All contracts will have clear indicators so as to improve legal certainty

Performance clauses will protect users by fixing service quality as the core goal of the concession. Also, investors will know exactly what goals they will have to achieve and how they will be measured.

4 We will restore the actual meaning of State bodies to our regulatory agencies

They will be strengthened and enabled to fulfill their role of regulating, monitoring and supervising. The agencies' autonomy is the assurance that they will be committed exclusively to the development of the sectors they regulate.

5 Auction notices will only be released after public debate and endorsement by the Federal Court of Auditors TCU

All studies prepared for the projects will be amply publicized through hearings and public consultations.

6 All Auction notices will be published in Portuguese and English

This was one of the suggestions by the Anti Trust Agency - CADE, who is collaborating in the preparation of the new model as a means to increase transparency and facilitate the participation of foreign investors.

7 This minimum term between the auction notice and the bid will be of 100 days

The period between issuing the auction notice and the submission of bids will be in excess of 100 days to allow a larger number of investors to prepare to bid.

8 From now on, concessions will only be granted to projects with demonstrated environmental feasibility

To this end, a preliminary environmental license will be compulsory or the competent body will issue guidelines for its acquisition. In the latter case, the guidelines will point to the necessary adjustments so that the license may be issued.

9 Our long-term financing model will change

The trend is for funds to be arranged when construction work starts, thus avoiding the need for bridge loans, which increase costs and bureaucratize operations.

10 We will work to ensure that existing concessions will remain committed to ensuring balanced projects

To this effect, advanced studies are seeking alternatives to solve existing problems in the light of changes that are shaping the new regulatory environment. In any alternative, the government will conduct technical studies which will be submitted to hearings and public consultations and will also have to be endorsed by the TCU.

Other purpose of the Program is to disseminate better practices and improve the contractual and institutional mechanisms, which are designed to evaluate the quality of services and to rationally allocate risks between the parties in each contract. Within a new atmosphere of transparency and competitiveness, more investments and

jobs are expected, as well as the increase of the economic development and of the quality of the services delivered to the Brazilian population.

5.2 Russia

Russia's vast infrastructure needs are well recognized. Effective and predictable public-private partnership mechanisms are key for attract required infrastructure investments and to attain solid and sustainable economic growth.

Investment opportunities exist in every region and in every sector of Russia's economy, with a wide array of government institutions, instruments and investment programs, as well as strong support for investors at all levels — federal, regional and municipal.

With the aim to improve infrastructure, leverage budget expenditures and improve investment climate Government of the Russian Federation is actively developing its PPP regulatory framework, relevant institutions and practices in order to improve the environment for implementation of public-private projects.

Around 2400 infrastructure projects are now under implementation on PPP principles. The distribution of federal, regional and municipal projects is, respectively, 1, 10 and 89 %. The projects are dominated by concessions (around 85 %).

There are two key federal laws covering implementation of PPP projects. Federal Law No. 115-FZ "On Concession Agreements" (July 21, 2005) and Federal Law No. 224-FZ "On Public-Private Partnership and Municipal-Private Partnership in the Russian Federation" (July 13, 2015). The implementation of the latter is aimed at facilitating private investment in infrastructure and increasing regulatory certainty among private investors. Regions are amending their regional PPP law in accordance PPP Federal Law.

Federal Law No. 224-FZ simplified the financing of various PPP arrangements including build-operate-transfer (BOT), design-build-operate-transfer (DBOT), build-own-operate (BOO), design-build-own-operate (DBOO), build-own-operate-transfer (BOOT), design-build-own-operate-transfer (DBOOT), design-build-finance-operate (DBFO), and private finance initiatives (PFI). Federal Law No. 115-FZ regulates models such as build-transfer-operate (BTO) and design-build/reconstruct-finance-operate (DBFO), and private finance initiatives (PFI).

There are several subordinate legal acts adopted in the development of Federal Law No. 224-FZ (e.g. legal acts covering regulation for the preparation of PPP projects, tender procedures, the procedure for evaluation of projects, and monitoring the implementation of PPP projects, etc.). Additional regulatory legal acts of the Russian Federation's constituent entities and municipal legal acts regulate PPPs at the municipal level.

Assuming very recent adoption of PPP Federal law the Government of Russia is carefully monitoring its implementation in order to provide the stakeholders and with stable and modern investment environment.

5.3 India

India has systematically rolled out a Public Private Partnership (PPP) program for the delivery of high-priority public utilities and infrastructure and has developed what is perhaps one of the largest PPP Programs in the

world, with over 1300 PPP projects at various stages of implementation. As per the 2015 Infrascope Report of the Economist Intelligence Unit, "Evaluating the environment for PPPs in Asia-Pacific 2014", India ranks first in "Operational Maturity" for PPP projects, third for sub-national PPP activity and fifth overall in terms of having an ideal environment for PPP projects.

In India, PPPs inter alia require: open transparent bidding for selection of the Concessionaire; Concessionaire to be a private entity - 100% private ownership is preferred where public sector participation is required for project-specific reasons, public sector equity cannot exceed 49% of the Concession JV-SPV.

The central coordination of PPPs is provided by the PPP Cell within the Department of Economic Affairs (DEA), Ministry of Finance. The PPP Cell is responsible for all matters relating to PPPs, including policies, guidelines, schemes, and capacity building initiatives.

Initiatives by Government of India (GOI) for promoting PPPs:

1. PPP Appraisal Committee (PPPAC): PPPAC is responsible for the appraisal of PPP projects in the Central Sector. This streamlines appraisal of projects, eliminates delays and helps adopt international best practices and uniformity in appraisal mechanisms and guidelines.
2. Standardized Bidding Documents: The Ministry of Finance also published standardized bidding documents which include Model Request for Qualification (RFQ) for Pre-Qualification of Bidders, Model Request for Proposal (RFP) for invitation of Financial Bids and also a Model RFP for engaging financial consultants and technical advisers for PPP Projects. Standardized contractual documents such as sector specific Model Concession Agreements, which lay down the standard terms relating to allocation of risks, contingent liabilities, guarantees, service quality and performance standards have also been developed.
3. Viability Gap Funding Scheme: Some potentially viable infrastructure projects may need initial support to achieve commercial viability as the projects may need time to stabilize after construction. The Viability Gap Funding Scheme has been formulated and provide part-financial support during the construction/early operations period in the form of grants, to infrastructure projects undertaken through PPPs to allow them to reach commercial viability. VGF support up to twenty percent of Total Project Cost is the Bid Parameter in such cases.
4. Post-Award Contract Management Guidance Material for Highways, Ports and School sectors, including Guidelines, Manuals and Online Toolkits, has been developed to guide Project Authorities during the Post-Award implementation phase of the PPP project. These are further supported by an interactive web-based toolkit, easily accessible through PPP's website
5. PPP Structuring Toolkits: As a part of the PPP Capacity Building Program, Toolkits have been designed to assist PPP practitioners to strengthen decision-making at all key stages of the PPP project cycle and also improve the quality of PPPs that are being developed. It is a web-based on-line Toolkit that facilitates identification, assessment, development, procurement and monitoring of PPP projects.
6. Knowledge Sharing and Information Dissemination: Various knowledge products, including best practices, resources, reports and updates are provided on the DEA websites for PPPs:
 - www.pppinindia.gov.in: The website serves as a hub for information on PPP initiatives in India and contains project data, PPP-related policy documents, government guidelines issued for mainstreaming PPPs.
 - www.infrastructureindia.gov.in: Database of infrastructure projects, including PPPs, being implemented across sectors in India.

7. India Infrastructure Project Development Fund (IIPDF): The PPP Cell provides project development support for projects right through the stages of structuring, market-testing, drawing up of bid documents and Concession Agreements, and bid processing through the IIPDF.
8. Pilot Projects: Hand holding support for Pilot PPP Projects in new sectors is provided by the PPP Cell to develop demonstrable PPP Projects in challenging sectors. The objective is to develop robust PPP structures and replicate them through sector-wise rollouts after successful award.

5.4 China

PPP in China is seen not only as a way of financing, but also a reform to China's existing institutional system, and a supply-side structural reform of public services. Since 2014, the Chinese government has promoted a new round of PPP reform and achieved fast development across the country.

Chinese government has initially built up a 3-in-1 regulatory framework that includes laws, policies and guidelines. To ensure stable government's fiscal expenditure on PPP projects and encourage private investors' involvement in PPP projects, the Chinese government requires the expenditure on PPP should be included in the fiscal budget approved by local people's congress. Meanwhile, in order to control the local government's debt, the Chinese government regulates that the expenditure for all the PPP projects out of the budget shall account for no more than 10% of the expenditure of the general public budget of local government.

With respect to the institutional building, the finance departments have established PPP management institutions at national, provincial, even municipal and county levels. According to the data in the National PPP Information Platform (a PPP project information database built by MOF, China), as of the end of December 2016, there were 11,260 projects in the database nationwide with the total investment of 13.5 trillion RMB, of which 1,351 projects are in the implementation stage with an investment of 2.2 trillion RMB, covering 19 sectors including energy, transportation, water resources, environmental protection, municipal engineering, area development, agriculture, forestry, science and technology, affordable housing, tourism, medical care and public health, elderly care, education, culture, sports, social security, government infrastructure and others.

In three batches, the MOF of China has selected 743 demonstration projects worth a total of 1.86 trillion RMB covering almost all the public service areas. The demonstration projects are managed by a dynamic adjustment mechanism through their whole life cycle. Their business cases, Value for Money evaluation report, fiscal affordability assessment report, feasibility study report and PPP contracts are requested to be disclosed. Those of the demonstration projects having signed PPP contracts are released. In order to build up an enabling regulatory and market environment for PPP development, those of the non-demonstration projects in the National PPP Information Platform will be also disclosed gradually for purpose of PPP projects information transparency through their whole lifecycle.

PPP model becomes an innovative development concept to China's existing institutional system as well as an important element for steady growth, promoting reform, structural adjustment, improving people's livelihood and preventing risks. International organizations like World Bank Group and Asian Development Bank spoke highly of PPP development in China.

5.5 South Africa

5.1 Establishment of the PPP Unit

The PPP Unit was established in 2000 and parts of its responsibilities are the following:

- (1) Develop the policy/regulatory framework for PPP
- (2) Prepare guidelines and manuals on the regulatory requirements
- (3) Establish a Project Development Fund to improve quality of PPP
- (4) Build a portfolio of transactions
- (5) Launch a highly effective stakeholder awareness campaign to educate the public and private sector in procurement requirements by conducting quarterly training
- (6) Advise on PPP projects implementation
- (7) Develops, formulates, and promotes PPP policy
- (8) Evolve as a dynamic and sustainable center of excellence for PPPs: Ensures that international best practice for PPP are followed
- (9) Drives the flow of PPP deals
- (10) Gives technical assistance to public institutions through project feasibility, procurement, and management
- (11) Promotes an enabling environment for PPPs by:
 - facilitating certainty in a regulatory framework
 - developing best practices guidelines: National Treasury PPP Manual; Standardized provisions of PPP/ agreements
 - providing training for both the public and private sectors
 - disseminating reliable information
 - driving black economic empowerment in PPPs

5.2 Move to GTAC (Government Technical Advisory Centre)

Until 31 March 2013, PPP Unit was a division of the Budget Office Division in National Treasury. Now the Unit is part of the Government Technical Advisory Centre (GTEC). GTEC is a component under South African law that is 100% owned by government. The Head of GTAC reports directly to the Minister of Finance.

The technical functions of the PPP Unit are critical for GTEC. The Technical assistance activities include the following:

- Procuring and management of Transaction Advisors
- Procuring Project Officers
- Advising on project feasibility,
- Advising on procurement document preparation and implementation
- Advising on negotiations and deal structuring
- Provision of capacity building and training

The National Treasury retains all approval and regulatory functions.

c. **Regulatory framework for PPPs – Treasury Regulation 16 of the Public Finance Management Act of 1999 and Section 120 of the Municipal Finance Management Act of 2003**

A PPP is defined in South African law as a contract between government institution and private party where the private party performs an institutional function and/or uses state property in terms of output specifications for a significant period of time. It assumes substantial project risk (financial, technical, operational), and in turn the private party benefits through: unitary payments from government budget and/or user fees. The public sector retains a major role either as main purchaser of the services or as main enabler of the project.

d. **Key PPP regulatory features**

The key regulatory feature of PPP frameworks in South Africa are:

- Regulation 16 requires all PPP deals to obtain Treasury Approval (TA) for:
 - (1) Affordability
 - (2) Value-for-money
 - (3) Appropriate allocation of Risk
- Applied within set PPP project cycle:
 - (1) Inception
 - (2) Feasibility
 - (3) Procurement
 - (4) PPP agreement management

Several years ago the main issue in the PPP market was that too few deals had been closed. This has changed dramatically with 26 successfully concluded PPP deals in the market. Currently there are over 50 registered projects in different phases of the project cycle. However, with new successes also come new challenges which need to be met head on. Today, one of the key challenges facing PPPs is ensuring that the concluded deals are successfully implemented according to the terms of the final agreement.

6. CASE STUDIES

6.1 BRAZIL

Case study 1: Fortaleza Airport

1) Project Summary

Located 8 kilometers from the center of Fortaleza (in the state of Ceará), the Pinto Martins International Airport received 6.5 million passengers in 2014 (96% on domestic flights), with 69,000 takeoffs and landings and 53,600 tons of air cargo processed.

It is the 12th busiest airport in Brazil and the 3rd most important airport in the Northeast region of the country, with a high flow of tourists. Between 2003 and 2014, it boasted an average growth rate of 12% in traffic per year. The growth in the quantity of aircraft, passengers and cargo at this airport reinforces the diagnosis for the necessity of increasing the existing infrastructure.

The airport site currently occupies an area of 530 hectares. The runway boasts a high occupancy length, primarily due to the lack of fast exits. There are 4 aircraft yards and the passenger terminal has six boarding bridges. Vehicle parking is spread over 848 parking spaces.

Technical studies produced for this project were obtained through an expression of interests procedure (PMI) conducted by the Ministry of Transport, Ports and Civil Aviation. These studies have pointed out that the current configuration of the airport site would allow for expansion. Accordingly, the expansion of the passenger terminal, aircraft yards and runway is planned. BRL 1.4 billion in investments is estimated, along with the generation of 1,500 direct jobs and 3,000 indirect jobs. Terms for the concession will be 30 years, and the bidding process will take the highest value of the grant, now estimated to be fixed at least BRL 1.44 billion. Note that 25% of this value, plus concession goodwill, will be paid up front.

2) Financing Information

The BNDES published the new financing conditions for the airports. The Bank may have a maximum 40% interest in funding the project for a maximum period of 15 years to be stipulated in accordance with the concessionaire's ability to pay and the lifespan of the investment. The amortization system will be the SAC, with no possibility of conversion to the PRICE system. The minimum required equity will be 20%, and bridge loans will not be offered by BNDES. The financing cost will be TJLP (Brazilian long term interest rate) + 1.5% p.y. In addition to the portion of TJLP available, the BNDES may also subscribe to 50% of issuance of debentures through the SPV.

2.1) Interest Rate

Direct Support (financing directly with BNDES)

Total Interest Rate = Cost of Funds + BNDES' margin + Risk Spread, where:

Cost of Funds = TJLP (Brazilian Long Term Interest Rate, established by Law nº 9.635/96);

BNDES' margin = 1.5% p.a.

Risk Spread = up to 3.37% p.a., according to the customer's / project's credit risk.

Indirect Support (finance done by intermediation of commercial banks)

Total Interest Rate = Cost of Funds + BNDES' margin + Financial intermediation rate + Commercial Bank Spread, where:

Cost of Funds = TJLP (Brazilian Long Term Interest Rate, established by Law nº 9.635/96);

BNDES' margin = 1.5% p.a.

Financial intermediation rate = 0.5% p.a.

Commercial Bank Spread = to be negotiated between the customer/project and the commercial bank

Additional fees applicable to BNDES' loans are listed here (*in Portuguese*).

Financial Conditions' Applicability

The TJLP's cost of funds will be available only for the first cycle of mandatory investments in the airport infrastructure, with a deadline defined by the Airport Exploration Plan ("PEA", in Portuguese) of the concession contract. Moreover, the construction of the second runway of the Salvador Airport, which will be mandatory once a specific demand level is reached, can also be financed with the TJLP's cost of funds.

2.2) BNDES Maximum Participation

Up to 40% of the Eligible Items, in TJLP cost. It is possible to increase BNDES' participation up to 80% of eligible items. This increase would be based on market costs, preferably by means of infrastructure bonds issued under Brazilian law. At least 20% of the project will have to be supported by equity.

2.3) Loan Term

Up to 15 years, including grace period, for the loans with TJLP cost. Up to 10 years, including grace period, for the loans with market cost, in case this loan is not carried out via issuance of infrastructure bonds.

There will be an initial amortization grace period of up to 6 months after the end of each investment tranche. Each tranche scope will be defined by BNDES according to the investment phases of the concession contract.

3) Concession Purpose

The purpose of the Airport Complex Concession is the performance of the following activities by the Concessionaire throughout the Concession term, without prejudice to the other obligations under the Agreement:

- The provision of loading, unloading, landing, parking, storage and wharfage services, Fees, and all other services related to airport infrastructure;
- The efficient exploitation of the Airport Complex, in order to obtain Non-Aeronautical Revenues and provide Users with the necessary support infrastructure for the proper functioning of the Airport Complex;
- The maintenance of all the facilities, assets, and existing deployed equipment in the Airport Complex, in accordance with the prevailing legislation and regulations;
- The execution of infrastructure improvements within the time limits outlined in this PEA, in order to expand the Airport Complex and enhance the quality of services;
- Full compliance with the level of service provided for in this PEA throughout the Concession term, by making such investments and obtaining such funds as may be necessary; and
- The adaptation of the other facilities necessary to serve Users, in the event of expansion of the Airport Complex, especially the apron, vehicle parking lots, access roads, among others.

The provision of services to support and guarantee the safety of air navigation in the air traffic area of the Airport is not included in the purpose of the Concession, and the acquisition, installation, operation and maintenance of equipment related to the following services and facilities, even when provided through the Aeronautical Telecommunications and Air Traffic Service Provider Station (“Estação Prestadora de Serviços de Telecomunicações Aeronáuticas e de Tráfego Aéreo” - EPTA), shall be the exclusive responsibility of the Government:

- Aeronautical Information Services (AIS);
- Air Traffic Management (ATM);
- Meteorology (MET);
- Facilities related to Communication and Aids for Air Traffic Terminal Area (COM);
- Search and Rescue (SAR); and
- Other Ancillary Services for Flight Protection, except for visual aids (PAPI, VASIS, ALS, runway and taxiway lights, runway and taxiway centerline lights, runway touchdown lights, stop bars, aerodrome beacon and windsock), which are the responsibility of the Concessionaire.

The Concessionaire shall be responsible for the cost of any relocation of facilities and equipment related to items 3.1 to 3.6, when caused by service or work proposed by the Concessionaire or contractual requirement, including the construction of new facilities with constructional characteristics similar to those of the decommissioned facilities, with such infrastructure as necessary and sufficient for the equipment for which the Government is responsible is able to operate.

The Concessionaire may, after prior approval from the competent body, make investments and improvements related to services intended to support and guarantee the safety of air navigation in air traffic areas of the Airport, provided that under no circumstance the Concessionaire shall be entitled to the restoration of the economic-financial balance.

Case study 2: Oil and Gas - Pre-Salt – 3rd Round

1) Project Summary

The 3rd Round of Biddings under the Shared Production Regime in the Pre-Salt Area was approved by CNPE Resolution 9 of April 11th, 2017.

CNPE Resolution 9 also approved the technical and economic parameters of the Shared Production Contracts to be entered into by the Union, as well as the areas offered, namely: Area of Pau Brasil and Peroba (in Santos Basin); Alto de Cabo Frio-Oeste and Alto de Cabo Frio-Central (boundary of the Santos and Campos basins).

The total value of the Signing Signature Bonus is BRL 4.35 billion, according to the following distribution:

- Pau Brasil area: BRL 1.5 billion;
- Peroba area: BRL 2 billion;
- Area of Alto de Cabo Frio-Oeste: BRL 350 million; and
- Area of Alto de Cabo Frio-Central, BRL 500 million.

The purpose of the 3rd Round is to:

- recompose and expand reserves and Brazilian production of oil and natural gas, in line with growing domestic demand;
- increase knowledge of the Pre-salt polygon; and
- attract investors, increasing and establishing national and foreign companies in Brazil, continuing the demand for local goods and services, generating employment and income distribution.

2) Object of the BID

The 3rd Production Sharing Bidding Round intends to award production sharing agreements for the development of activities of exploration and production of oil and gas in 4 blocks, namely: Pau Brasil, Peroba, Alto de Cabo Frio Oeste e Alto de Cabo Frio Central. These blocks are distributed in 2 sedimentary basins: Campos and Santos. The basins, sectors, blocks, and their respective locations and areas in km² can be found in table below.

Basin	Sector	Block Offered	Exploration Model	Area Offered (km ²)
Santos	SS-AUP2	Pau Brasil	High Potential	1,183.68
		Peroba	High Potential	1,073.41
	SS-AP1	Alto de Cabo Frio Oeste	High Potential	1,383.00
Campos	SC-AP5	Alto de Cabo Frio Central	High Potential	3,674.37

To develop the activities of exploration and production of oil and gas in the blocks object of the 3rd Production Sharing Bidding Round, the winners or the affiliates indicated thereby shall execute production sharing agreements.

3) Exploration Model

This Tender Protocol contemplates the following exploration model:

I – blocks in high potential basin aiming at recovering and increasing the reserves and the Brazilian production of oil and gas and meeting the growing domestic demand.

Basin	Sector	Exploration Model	Block Offered	Area Offered (km ²)	Exploration or Assessment Phase (years) ²	Minimum Qualification Required ³
Santos	SS-AUP2	High Potential	Pau Brasil	1,183.68	6	A
		High Potential	Peroba	1,073.41	6	A
	SS-AP1	High Potential	Alto de Cabo Frio Oeste	1,383.00	6	A
Campos	SC-AP5	High Potential	Alto de Cabo Frio Central	3,674.37	6	A

Pursuant to CNPE Resolution No. 13/2017, Petrobras has expressed interest in becoming the operator of the blocks Peroba and Alto de Cabo Frio Central.

The table below consolidates the information on Petrobras' preemptive right, as well as its share percentage as operator and the share to be offered to the blocks of the 3rd Production Sharing Bidding Round.

Basin	Sector	Block	Did Petrobras express interest in acting as an operator	Petrobras' share as an operator (%)	Share to be offered
Santos	SS-AUP2	Pau Brasil	No	Not applicable	100
		Peroba	Yes	30	70
	SS-AP1	Alto de Cabo Frio Oeste	No	Not applicable	100
Campos	SC-AP5	Alto de Cabo Frio Central	Yes	30	70

For the blocks for which Petrobras did not express interest to act as an operator, the winner shall organize a consortium with PPSA.

For the block for which Petrobras expressed interest to act as an operator, the winner shall organize a consortium with:

- PPSA; and
- Petrobras, if it is not the winner and has chosen to organize the consortium.

PPSA shall represent the Federal Government's interests in management of the production sharing agreements awarded in the 3rd Production Sharing Bidding Round.

The signature bonus corresponds to the amount in Reais (R\$) to be paid by the winner in a lump sum, within the term established by ANP, as a condition for execution of the production sharing agreement of the block object of the bid.

The signature bonus shall not become an integral part of the cost oil and corresponds to the fixed amount payable to the Federal Government by the contractor, and its reimbursement to the contractor is prohibited, in any event.

6.2 RUSSIA

Case study 1: Transport Federal Infrastructure - Expressway M-11 Moscow — Saint Petersburg (Stage 6)

Section 6 (km 334 — km 543) of the Expressway passes across Tver Region (Vyshny Volochek and Bologoe Districts) and Novgorod Region (Okulovo, Malaya Vishera and Novgorod Districts). The Motorway 217,1 km long is a part of the construction of the toll-based M-11 Moscow — Saint Petersburg Expressway, connecting the two largest cities of the country.

Location	Tver and Novgorod Regions
Length	217,1 km
Estimated traffic density	15500 — 17000 vehicles per day
Motorway Class	1A
Number of traffic lanes	4
The total project cost (in prices of respective years, inclusive of VAT)	148,35 bln RUB
The total construction cost under the Agreement (in prices of respective years, inclusive of VAT)	144,61 bln RUB
Public financing	128,65 bln RUB
Contractor's Investments	15,96 bln RUB
Contract type	Long-Term Investment Agreement
Bidding Period	2013-2014
Construction Dates	2014-2018
Operational Period	2018-2039

The implementation of the project for the construction of the M-11 highway provides a comprehensive solution to the most important economic and social development challenges of the country and regions:

1. Creation of efficient high-speed road service between Moscow and St. Petersburg;
2. Increasing the competitiveness of the Russian transport system and the implementation of transit potential of the country;
3. Reduction of transport load on the existing network and improvement of efficiency of the Moscow and St. Petersburg transport hubs, creation of necessary conditions for development and growth of cargo turnover of seaports in the North-West Federal District
4. Formation of conditions for increasing the attractiveness of investment and complex development of territories of 6 subjects of the Russian Federation with a population of more than 25 million people, providing 1/3 of Russia's gross domestic product;
5. Improvement of road safety and user's experience.
6. The Project is in line with 2030 Transport Strategy of the Russian Federation and other strategic federal programmes.

The economic mechanism for project implementation is similar to the concession scheme with the payment of the public partner. In particular, the long-term investment agreement is a civil-law mixed contract and is regulated by general provisions on contracts of civil legislation of the Russian Federation.

The agreement reflects the life-cycle contract model based on the principle of "buying" from infrastructure service provider and ensuring pass-through liability of the contractor of the quality of the object during its life cycle. In addition, the provisions of the agreement include the obligation of the contractor to prepare the construction site and reorganize the engineering support networks located at the construction zone. The list of works that fulfill the abovementioned obligation of the contractor under the agreement does not include the transfer of lands for public

needs, the change in the categories and types of permitted usage of such land plots and the registration of property rights of the Russian Federation for land plots. These works are included in the obligations of the “Avtodor” Group of Companies, which is reflected in the section of the memorandum covering the main terms of the agreement.

The obligations of the contractor under the agreement include the operation of the road after the completion of the construction, including the operation of a tolling system and an automatic traffic management system. Activities to implement toll collection from road users (operator activities) are not the subject of the agreement and are carried out by “Avtodor” Group outside the framework of the agreement.

The advantage of using the public-private partnership model for project implementation is the optimal, balanced and cost-effective distribution of risks associated with the project implementation between the parties to the long-term investment agreement. The basis for the optimal allocation of risks is the principle that risks that are beyond the control or competence of the contractor are assigned to the “Avtodor” Group which acts as a public partner in this project. Implementation of the project on the basis of the mechanism of the agreement allows to reduce the volume of investments of the contractor, which, accordingly, reduces its financial risks.

Case study 2: Social Regional Infrastructure - Covered sports center with synthetic ice with capacity of 5000 seats

Project	Building and operation of covered sport arena with artificial ice for 5000 seats
Project status	Operation Phase
Contract type	Concession agreement
Construction period	2012-2014
Operational Period	2014-2024
Total project capital costs	2,023 bln RUB
Concedent participation	Ulyanovsk region - Transfer of the rights of ownership and use of the objects of the agreement, provision of land plots where the objects of the agreement are located, on the basis of the lease agreement. The amount of rent is adjusted for the inflation index.
Concessionaire participation	JSC “Volga-Sport” - Construction, equipping and operation of the facility of the agreement. Provision of services to the population of the districts of the Ulyanovsk Region both on chargeable and unpaid basis.
Volume of payments to concessionaire during the operation phase (capital and operational expenses of the concedent)	4,704 bln

In 2012, a concession agreement for the financing, construction, equipping and operation was signed between the Government of the Ulyanovsk region and JSC “Volga-Sport” for financing, construction, equipment and operation of the Sport Palace with artificial ice for 5,000 seats with a 100-by-60-meter playing field in the city of Ulyanovsk for a period of 12 years. The construction of Sport Palace was completed in 2014 - just in 1,5 years. The investor has attracted funds from non-state pension funds for the implementation of the project, the return of which is carried out during the term of the concession agreement.

The capacities of this social infrastructure are suitable both for sports and cultural events. It is the location for major events of the Ulyanovsk region. Moreover, the sport complex receives the right to host federal and international competitions. In particular, in 2016 at the stadium “Volga-Sport-Arena” hosted the games of the Ball Hockey (Bandy) World Championship.

The Ulyanovsk PPP project is recognized by experts among the best in Russia in 2014 and is also included as the best practice on federal level. The experience of the region in preventing risks in the implementation of public-private partnership is included in the guidelines for regions of the country.

6.3 INDIA

Case Study 1: PPP in Power Distribution in Delhi

1. Project Brief

Particulars	Details
Name of the project	PPP in Power Distribution in Delhi
Implementing Agency	Delhi Vidyut Board (DVB)
Mode of Implementation	PPP mode
Sector	Power Distribution
Location	Delhi, India
Project Scope	Rehabilitation, Development and Operations & Maintenance of the brownfield assets. Concessionaires responsible for funding, implementation plans and timelines.
Cost	Investment made by Concessionaires (Power Distribution Companies or DISCOMs) so far is more than Rs. 75 billion.
Concession Period	25 years
Technical Parameters and operation of the project	Concessionaires have to follow the technical norms as applicable for power distribution. Planned Aggregate Technical & Commercial (AT&C) losses were to be attained by the Concessionaires for sustainable operations. This was in-built in the project Bidding Parameter.
Bid Parameter/ Financial Support	AT&C loss reduction. To avoid a tariff shock, Delhi Government committed a subsidy of Indian Rupee (INR) 34.50 billion to Concessionaires routed through Transmission Company (TRANSCO) in the first 5 years of operations. With reducing AT&C losses expected every year, the level of assistance would diminish every year.
Special Purpose Vehicle (SPV) for project implementation	DISCOM 1 – BSES Yamuna Power Limited (BYPL) for Central and East Delhi DISCOM 2 – BSES Rajdhani Power Limited (BRPL) for South and West Delhi DISCOM 3 – Tata Power Delhi Distribution Limited (TPDDL) for North and Northwest Delhi
Payment Mechanism	<ol style="list-style-type: none"> By 30 November every year, Concessionaires submit expected revenues and cost of service for the following Financial Year (including financial costs and proposed returns on equity) to Delhi Electricity Regulatory Commission (DERC). For addressing difference between expected aggregate revenues and cost of service, Concessionaires have to submit measures to eliminate it, including a tariff revision proposal. DERC to determine the tariff as per provisions of Section 28 of the Delhi Electricity Reforms Act (DERA). Concessionaires are allowed 16% return on the issued and paid up capital and free reserves. Concessionaires are entitled to retain 50% of the additional revenues from any AT&C loss reduction over and above the targets. The balance 50% of any excess efficiency gain is to be passed on to consumers.
Status	Operational

2. Project Background/Rationale

State Electricity Boards (SEBs) were authorized in 1948 to manage electricity supply in Indian states. Over a period of time, SEBs were turning out to be commercial failures with huge losses. The physical systems were dilapidated, Transmission and Distribution (T&D) losses were high, and revenue-cost gap kept on widening, which was reflected in increasing losses over the years. As a precursor to giving power distribution to PPP concessionaires, Delhi Electricity Regulatory Commission (DERC) was constituted by the Government of Delhi in 1999. In an effort to improve performance, institutional changes were effected in Delhi by converting the integrated power supply company from a municipal unit, Delhi State Electricity Undertaking, into a State unit, the Delhi Vidyut Board (DVB). However, this did not have any major impact on performance. Low plant load factor of DVB generating

stations was coupled with high Transmission & Distribution (T&D) losses, resulting in high financial losses. In fact, T&D losses increased from 22.6% in 1991-92 to around 44% in 2001-02. Financial performance of the DVB, like other State Electricity Boards, continued to deteriorate, affecting its ability to make fresh investments and meet power demand.

Delhi power distribution segment was privatized in July 2002 by carving the city into three zones and privatizing them by giving majority shareholding (51%) to the two largest private power sector players in India, Tata Power (North and North-West Delhi) and BSES [BSES Rajdhani Power Limited, BRPL (South and West Delhi) and BSES Yamuna Power Limited, BYPL (Central and East Delhi)]. Reliance Infrastructure subsequently acquired 51% stake in BRPL and BYPL. The generation and transmission of power is still in the public sector while distribution has been transferred to the private sector.

3. Procurement

Two-stage bidding process was followed for the project with reduction in Aggregate Technical & Commercial (AT&C) losses as the bidding parameter. AT&C loss is the difference between energy supplied into the system and energy for which payment has actually been received by the DISCOMs. Tariffs were to be set annually by DERC on the basis of the accepted targets for AT&C loss reduction.

The initial AT&C loss level at the point of privatization (2002) for the DISCOMs was as follows:

DISCOM	AT&C Loss (%)
South-West Delhi Electricity Distribution Company Ltd. (BRPL)*	48.1
Central-East Delhi Electricity Distribution Company Ltd. (BYPL)*	57.2
North-Northwest Delhi Distribution Company Ltd. (TPDDL)*	48.1
All DISCOMs	50.7

*Private Power Distribution Concessionaires in Delhi

Only two financial bids were received, from BSES Ltd and Tata Power Co Ltd. While BSES Ltd bid for all the 3 companies, Tata Power submitted bids only for North-Northwest and South-West companies. Both the bidders offered AT&C loss reduction much lower than the targets set by the Government. As these bids were not satisfactory, a Core Committee of the Delhi Government negotiated with the bidders in pursuance of the directions of the Delhi Cabinet and a negotiated agreement was reached.

The AT&C loss reduction targets (%) – original and after negotiations – are given in the table below.

Region	Opening loss level	Original - Minimum stipulated by Government in RFP					AT&C losses at end of period
		2002/03	2003/04	2004/05	2005/06	2006/07	
South/West (BRPL)	48.1	1.25	5.00	4.50	4.50	4.00	28.85
Central/East (BYPL)	57.2	1.50	5.00	5.00	5.00	4.25	36.45
North/North West (NDPL)	48.1	1.50	5.00	4.50	4.25	4.00	28.85
		Final - Agreed after negotiation					
South/West (BRPL)	48.1	0.55	1.55	3.30	6.00	5.60	31.10
Central/East (BYPL)	57.2	0.75	1.75	4.00	5.65	5.10	39.95
North/North West (NDPL)	48.1	0.50	2.25	4.50	5.50	4.25	31.10

The Government of Delhi handed over the majority ownership (51% equity), management and control of electricity distribution to the three Concessionaires with the public sector Delhi Power Company Limited as the minority shareholder (49% equity) on 1 July 2002.

4. Risk Sharing Framework

Risk	Explanation	Mitigation
Political Risk	Change in key performance indicators, law and order issues, change in policies, etc.	The electricity regulator, DERC, came into being before power distribution was handed over to private concessionaires. Written contractual obligations governed the concessions.
Collection Risk	Company will be unable to collect allowed revenues.	Special Courts for facilitating faster disposal of theft related cases set up by the Delhi Government. Delhi Government also facilitated availability of security forces to assist in power theft control.
Tariff Risk	Regulator will not enforce cost-recovering level of tariffs	Multi Year Tariff Orders have been passed by the regulator, thereby setting long-term performance targets. For uncontrollable factors (not under Concessionaires control), variations can be factored in the Aggregate Revenue Requirement (ARR) for the following year through the "truing-up process." Additionally, DERC implemented a Power Purchase Cost Adjustment since July 2012 on a quarterly basis. However, tariff risk remains in the form of substantial "regulatory assets".

5. Project Current Status

The project has been operational in the demarcated areas of the respective Concessionaires. There has been significant overall improvement on multiple parameters, including cost-savings to the State Government, as mentioned below.

- i. The subsidy for power distribution paid by Delhi Government has come down drastically. According to a study report by SBI Cap Securities on the power sector (October 2012), Delhi Government was able to save Rs. 300 billion over the first ten years of Delhi power distribution privatization.
- ii. Peak electricity demand of 6,261 MegaWatt (MW) was successfully met on 01.07.2016 and load shedding as percent of energy supplied is down to 0.1% in Financial Year 2016-17 from 3% in 2001-02.
- iii. AT&C losses have come down to about 13% currently from over 50% at the point of privatization in 2002.
- iv. During 1991-2002 (DVB period) the power tariffs increased at the rate of 15% per annum while during PPP period from 2003-2012, rise in power tariffs is less, only about 6.3% per annum.
- v. Significant improvement in customer related parameters: Mean Time to Repair Faults, Meter Replacement, Bill Complaint Resolution. All Concessionaires have set up call centres for addressing queries of consumers and for recording and responding to complaints. Web sites have also been set up, which offer consumer-centric facilities.

6. Key Learnings

- i. *Political Will:* The Delhi Government made Government entities pay their dues and provided security personnel for anti-power-theft drives. Special courts for dealing with power theft cases have also been set up, ensuring speedy disposal of cases. All this was reflected in falling AT&C losses.
- ii. *Efficiency Enhancement:* Large AT&C loss reduction was achieved through enhanced collection efficiency and technical and commercial loss reduction through better infrastructure maintenance and anti-power theft drives. This obviated the need for large tariff hikes.
- iii. *Employee Support:* Employee benefits and terms and conditions of service were guaranteed in the successor concessionaire companies as available to them when these companies were in the public sector. DVB took over liability for retirement benefits by establishing a Pension Trust Fund to which the Government contributed INR Rs. 8.60 billion (supplementing INR Rs.4.44 billion available with DVB). Employees, thus, consistently supported the unbundling of DVB and created no major hurdles to privatization of power distribution.
- iv. *Liabilities:* All past unserviceable liabilities and past losses of DVB were not passed on to the successor companies. The restructured entities started with clean opening balance-sheets. Liabilities arising out of litigation, suits, claims etc. pending on the date of the takeover and/or arising due to events prior to takeover were to be borne by the relevant distribution company subject to a cap of INR Rs.10 million per annum. Any amount beyond this cap was to the account of the public sector Holding Company. This helped generate investor confidence by offering them insulation from legacy litigations.
- v. *Regulatory Framework and Freedom from Political Interference:* DERC was established to bolster investor confidence in the reform process by making tariff fixation and other decisions relatively free from political risk.
- vi. *Protection from Tariff Shocks:* The INR 34.5 billion grant offered by the Government during the initial five-year transition period (2002-07) helped minimize the need for immediate tariff hikes, eliciting support to the PPP arrangement from the consumers.
- vii. *Concessionaires' Innovativeness:*
 - a. *LIG Incentives:* Concessionaires reduced the upfront cost of metering for low income group (LIG) consumers, thereby incentivizing them to install meters, increasing the number of grid-connected and metered consumers.
 - b. *Corporate Social Responsibility:* Health Camps, Vocational Training Centres, Adult Literacy classes etc. were undertaken by the Concessionaires. This has the advantage of forging closer ties with the consumers, ensuring twin benefits of better compliance in settling bills and enhancing consumer satisfaction.

Case Study 2: Widening of Jaipur - Kishangarh Road under Public Private Partnership (PPP) mode

1. Project Brief

Particulars	Details
Name of the project	Widening of Jaipur - Kishangarh Road under Public Private Partnership (PPP) mode
Implementing Agency	Ministry of Road, Transport and Highways (MoRTH)
Sponsoring Authority	National Highways Authority of India (NHAI)
Mode of Implementation	Build, Operate and Transfer (BOT) basis under PPP mode
Sector	Road (Highways)
Location	Rajasthan, India
Project Length (km)	90.4 kilometer
Project Scope	Widening of existing 2-lane to 6-lane divided carriageway facility including rehabilitation of existing 2-lane from 273 kilometre (km) to 364 km on Jaipur-Kishangarh section of National Highway (NH) 8 in Rajasthan, India on Build Operate Transfer (BOT) basis under Public Private Partnership (PPP) mode. The scope includes design, engineering, financing, procurement, construction, completion, operation and maintenance of the Project for 20 years from the appointed date.
Total Project Cost (TPC) as per the Concession Agreement (CA)	The project cost estimated by the Authority was Indian Rupee (INR) 7,284 million. However, the actual project cost was INR 6,145 million as assessed after completion of the construction of the project. TPC has come down by 16% from the original estimate, thus demonstrating private sector efficiency in project construction.
Construction Period	2.5 years. However the project was completed before time (5 months before time)
Concession Period	20 years (including 2.5 years construction period). Including the construction period in the Concession period incentivized faster completion of the project.
Technical Parameters and operation of the project	The technical parameters proposed for the project are based mainly on output specifications based on the NHAI manuals and Indian Road Congress (IRC) norms.
Revenues to Developer	User Fees is in the form of toll collection by private concessionaire from end users as per toll rates notified by the NHAI and periodic escalation linked with Wholesale Price Index (WPI).
Bid Process Management	Two Stage Bidding Process consisting of: <ul style="list-style-type: none"> • Stage 1: Request For Qualification (RfQ) (where Technical and Financial capacity of bidders is evaluated) • Stage 2: Request For Proposal (RfP) (or the financial bidding stage) and Draft Concession Agreement (DCA) issued to pre-qualified bidders
Bid Parameter/ Financial Support	Lowest upfront Capital Grant in form of equity support subject to the maximum Grant up to 40% of the TPC. This support was provided by the Authority i.e. NHAI.
Grant quoted by the Selected bidder	Grant of INR 2,110 million (which is around 29% of the TPC) as quoted by the selected private developer.
Selected bidder	Consortium of M/s GVK International NV and M/s B. Seenaiiah & Company (Projects) Limited. The lead member M/s GVK is a leading Indian conglomerate based in Telangana, India and is into diverse sectors including energy, airports, transportation, hospitality and life sciences.
Special Purpose Vehicle (SPV) created by selected private developer	M/s GVK Jaipur Expressway Private Limited (GJEPL)
Important Milestones/ Dates	<ul style="list-style-type: none"> • Signing of the Concession Agreement (CA): May 8, 2002 • Financial Close and Appointed Date: March 17, 2003 • Commercial Operation Date: April 9, 2005
Status	Operational

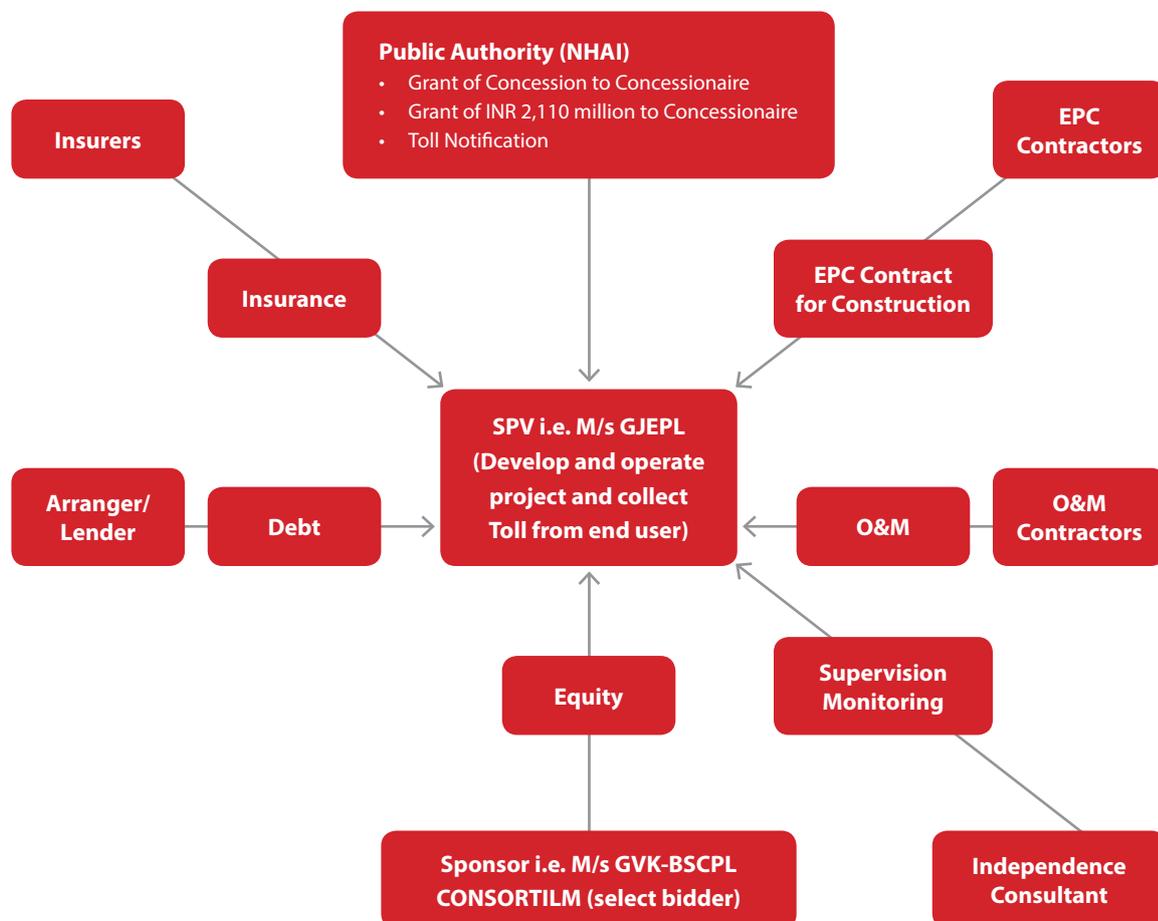
2. Project Background/Rationale

The Government of India through MoRTH had authorized NHA for strengthening of existing 2-lane highway from km 273 to km 364 on the Jaipur-Kishangarh section of National Highway No-8 (NH-8) in Rajasthan, India. This section forms a segment of NH-8 and is a part of the Golden Quadrilateral project, which itself is a part of the National Highways Development Project (NHDP).

NH-8 connects Mumbai to Delhi and serves as the major artery connecting the ports in Maharashtra/ Gujarat to the landlocked northern hinterland, which leads to heavy traffic on this stretch. Hence, NHA planned to upgrade the existing 2-lane highway to 6-lane highway to meet the requirements of the expected traffic on this stretch. This was the first Indian road expressway built under the Public-Private Partnership model considering the existing and expected traffic on this stretch and its financial viability under PPP mode. The benefits envisaged from this project are:

- Establishing faster transport networks between major cities (Jaipur, Rajasthan) and ports (Gujarat/ Maharashtra).
- Providing an impetus to smoother movement of products and people from Delhi to Mumbai.
- Enabling industrial and employment development in smaller towns through access to markets.

3. PPP Transaction Structure



4. Procurement

NHAI followed a two-stage transparent bidding process to select the private concessionaire for the project. NHAI had floated the Request for Qualification for pre-qualification of the bidders where the technical and financial capacity of the bidders were evaluated and subsequently RFP document was issued to pre-qualified bidders for submission of financial proposal. Based on the financial evaluation of the proposals, M/s GVK -BSCPL Consortium quoted the lowest capital Grant of INR 2,110 million. Hence, this consortium was selected as the preferred bidder for the project. Further NHAI had entered into a Concession Agreement with the SPV created by the preferred bidder i.e. M/s. GVK Jaipur Kishangarh Expressway Private Limited (M/s GJEPL) for a Concession Period of 20 years (including 2.5 years construction period starting from appointed date i.e. 17th March 2003).

5. Risk Sharing Framework

	SPV	NHAI	Mitigation Mechanism as per Concession Agreement (CA)
<i>Land Risk</i>	No	Yes	Obligation of the Authority to access/transfer the right of way/ land to Concessionaire as per the Conditions Precedent defined in the CA.
<i>Design Risk</i>	Yes	No	Obligation of Concessionaire. Provided flexibility to Concessionaire in terms of design to optimize the project cost by bringing in private sector efficiencies.
<i>Obtaining clearances</i>	Yes	Partial	Obligation of the Concessionaire to obtain the required clearances for the project except the central government clearances, which was the responsibility of the Authority.
<i>Financing Risk</i>	Yes	Partial	Borne by the Concessionaire to tie up for debt and infuse equity. However Grant of INR 2,110 million was provided by Authority in form of equity support.
<i>Construction Risk</i>	Yes	No	Borne by Concessionaire. The Concessionaire awarded the Engineering Procurement and Construction (EPC) contracts to reputed EPC players. Further, there were provisions pertaining to Construction performance guarantee to mitigate such risk.
<i>Completion Risk</i>	Yes	No	Borne by the Concessionaire. However, following factors helped in completion of project five months earlier than original plan: a) Concession Period of 20 years included the 2.5 years construction period. b) Awarding of EPC contracts to reputed EPC players. c) Independent Consultant appointed by NHAI for supervision and monitoring of the project.
<i>Operation & Maintenance Risk</i>	Yes	No	Borne by the Concessionaire. The Concessionaire shall operate and maintain the Project Highway by itself or through O&M Contractors.
<i>Force Majeure Events</i>	Partial	Yes	Three events were defined in the CA such as Non Political, Indirect Political and Political Event. Termination payment for these three events was clearly defined in the CA to mitigate the risks in case of force majeure events.
<i>Change in Law</i>	Partial	Yes	Borne by the Authority as per the defined mechanism in CA in case the aggregate financial affect exceeds INR 10 million in any Accounting Year. However borne by the Concessionaire, if the proposed amount is less than of INR10 million.
<i>Inflation risk</i>	No	No	Toll charges indexed with WPI. Therefore, neither Authority nor the concessionaire bears the inflation risk.
<i>Traffic and Revenue Risk</i>	Yes	No	Borne by the Concessionaire. However, NH-8 connects Mumbai to Delhi and serves as the major artery connecting the ports in Maharashtra/ Gujarat to the landlocked northern hinterland, which leads to heavy traffic on this stretch. Further, toll charges are indexed with WPI. All these factors mitigated traffic and revenue risk.

6. Current Status of Project

The Concessionaire i.e. M/s GJEPL, a wholly-owned subsidiary of GVK Transportation Pvt. Ltd and a step-down subsidiary of GVK Power and Infrastructure Ltd, is currently managing the O&M of the project successfully. The key financials of the Concessionaire are presented in the table.

Particulars	FY15-16	FY16-17
Toll Collections	INR.3,301.4 million	INR.3,019.5 million
Revenue share to NHAI as the traffic is more than the threshold limit as per CA.	INR.481.6 million	INR.308.7 million
Net profit (PAT)	INR.419.2 million	INR.813.4 million
Average Traffic per day in PCU (PCU: Passenger Car Units)	30,650	24,427

7. Key Learnings

The aforesaid project is an example of well implemented road development project implemented under PPP mode in India. The critical factors, which led to successful delivery of the project, are enumerated below:

- The Authority followed the two stage bidding process, which is an international best practice to select the bidder. Two stage bidding process provided sufficient time to prequalified bidders to make their own assessment of financial viability of the project.
- Generally as per the conditions precedent of CA, the Authority shall provide the right of way/ land to the developer within stipulated timeline. However, in most of the cases, Authority is unable to acquire the land within defined period due to various reasons, which lead to project cost overruns and sometimes to termination of the projects. In the present case, Authority had provided the land in a timely manner to the Concessionaire, which accelerated the implementation of the project.
- Output specification as compared to input specification by the Authority. This provided the flexibility to Concessionaire to bring in private sector efficiencies and optimize the project costs.
- The construction of the project was completed by the Concessionaire in two years and one month time instead of the scheduled 2.5 years construction period, which resulted in reduced project cost of INR 6,145 million (16% less than the initial estimated project cost of INR 7,284 million). Therefore, specifying sound technical eligibility criteria at the RfQ stage are critical to shortlist qualitatively experienced bidders who have sound project management skills to implement such projects.
- Grant support subject to the cap of 40% of TPC was provided by the Authority to support the project financially and made it a commercially viable proposition for the Concessionaire.
- During the FY16-17, the Concessionaire paid an amount of Rs.308.75 Million to NHAI as their revenue share since the toll revenues are beyond the threshold limit as specified in the Concession Agreement. This confirms the gap analysis which was carried out to justify the widening of existing 2-lane to 6-lane expressway at that point of time.

6.4 CHINA

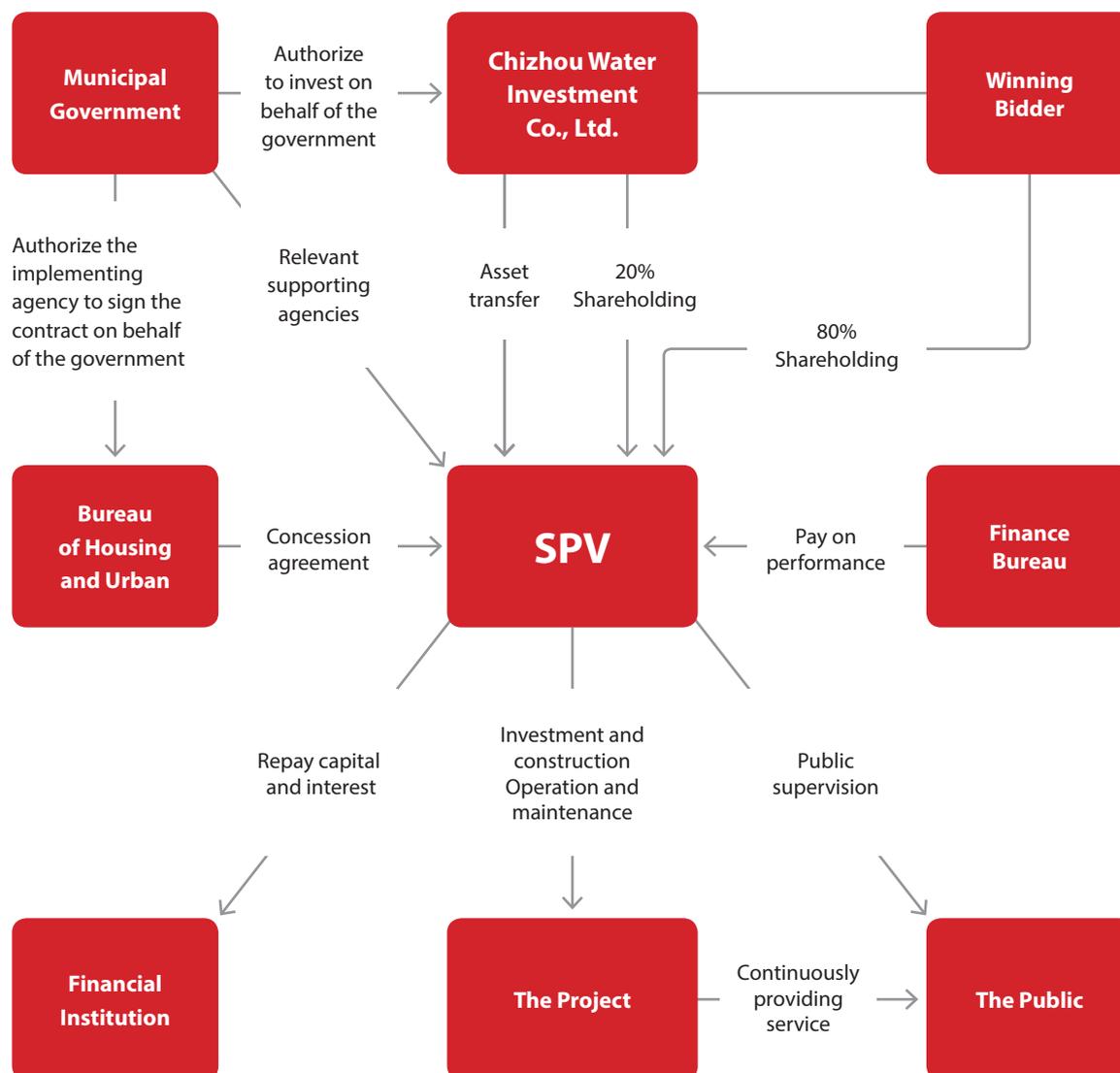
Case 1: PPP Projects on Sewage Treatment and Municipal Drainage Facilities in Main Urban Area of Chizhou, Anhui Province

To improve the supporting facilities for urban development and overcome the drawbacks caused by segment management, the City of Chizhou, Anhui Province, decided to use the PPP model to implement the main urban sewage treatment and municipal drainage facilities. The sewage treatment plant, drainage pipe network, and pumping station in the main urban area have been packaged and operated in accordance with the mode of “Integration of plants and networks, and overall consideration of the brownfield and greenfield”. Since the implementation of the project, drainage capacity of Chizhou has been significantly enhanced, the old town of the city has no obvious stagnant water areas and there isn’t the “sea” view during the flood season any longer.

Basic Information of the project

Project Name	PPP Projects on Sewage Treatment and Municipal Drainage Facilities in Main Urban Area of Chizhou, Anhui Province
Project Type	Brownfield + Greenfield
Sector	Sewage Treatment
Cooperation Content	<p>Brownfield Part: There were 2 sewage treatment plants in the main urban area with the total sewage capacity of 100,000 tons/day (Phase I of Qingxi Sewage Treatment Plant 40,000 tons/day, Phase II 40,000 tons/day, East Sewage Treatment Plant 20,000 tons/day); there was a drainage (sewage and rainwater) pipes network of about 750 km and 7 sewage pumping stations with the total sewage treatment capacity of 104,500 tons/day. Among them, sewage treatment plants were operated and managed by the original Chizhou Water Supply and Drainage Company, and the drainage pipes network and pumping stations were managed by each related district and the Housing and Urban-rural Construction Committee of Chizhou. The SASAC (State-owned Assets Supervision and Administration Commission) of Chizhou recorded the total value of the brownfield assets of RMB 712,266,700, and asset transfer price of RMB 712,266,700.</p> <p>Greenfield Part: Construct 3 new sewage treatment plants with a sewage treatment capacity of 100,000 tons/day (Zhanqian District Sewage Treatment Plant 20,000 tons/day, the City Concentrated Demonstration District Sewage Treatment Plant 20,000 tons/day, East Sewage Treatment Plant Phase II 60,000 tons/day); build 554 km drainage network and relevant facilities; and build other sewage treatment and municipal drainage facilities in the main urban area within the concession period. The estimate total investment of the greenfield part is approximately RMB 1.342 billion.</p>
Cooperation Term	26 years
Type of PPP	Transfer-Operate-Transfer (TOT) + Build-Operate-Transfer (BOT)
Payment Mechanism	Government Pay (Sewage treatment fee + Drainage service charge)
Implementing Authority	Housing and Urban-rural Construction Committee of Chizhou
Procurement	Invited Bidding
Winning Bidder	Shenzhen Water (Group) Co., Ltd.
Contract Date	December 29, 2014
SPV	<p>Name: Chizhou Drainage Co., Ltd. Date of establishment: December 26, 2014 Shareholding structure: 80% for Shenzhen Water (Group) Co., Ltd., and 20% for Chizhou Water Investment Co., Ltd., the government-nominated representative of investors.</p>

Project Transaction Structure



The total investment of the project is RMB 2.05 billion, of which the brownfield asset transfer price is RMB 710 million, the greenfield project estimate investment is RMB 1.34 billion. Government authorized the government wholly-owned Chizhou Water Investment Co., Ltd. as a government representative to establish the SPV, namely Chizhou Drainage Co., Ltd. with Shenzhen Water (Group) Co., Ltd. The SPV is responsible for the project construction and operation. The highlights of this project are as follows:

1. Integrated the plant and network to achieve the unified and coordinated management and operation

The separation of the plant and the network makes it difficult for many cities to coordinate and manage the operation of sewage treatment plants, pumping stations and drainage pipe networks, which also causes various problems, such as multiple management, serious shortage of maintenance funds, aging and breakage of equipment of collecting system, serious siltation of pipelines, urban water logging etc.. The Project bundled the city sewage treatment and drainage facilities, through the operation and management mode of "integration of the plant and

network” to unify the administrative rights of drainage management, and achieve the scale effect and synergy effect of the sewage treatment and drainage network operation and management. It also eliminates the chronic problems existing in the management of sewage plant network facilities in the past. Since the implementation of the project, Chizhou’s drainage capacity has been significantly enhanced, and water logging significantly improved, which eventually has improved the living environment of the public.

2. Activate the stock assets to improve the use efficiency of fiscal funds

Chizhou evaluates the stock assets of the sewage treatment plants and the drainage network, and packs the existing 2 sewage treatment plants, 750 km drainage network and 7 sewage pumping stations as a whole and transfers them to the private partner for RMB 710 million. This not only enlivened the stock assets, improved the urban infrastructure, but also effectively reduced the local government’s debt burden, and improved the usage efficiency of fiscal funds. Through the PPP model, the SPV is responsible for the construction of new sewage treatment and drainage facilities on the basis of the old pipe network, and will maintain and operate the stock and increment projects as a whole for a period of 26 years. PPP model could enable professional people to do professional things, speed up the transformation of government functions, facilitate the government to change its role from the past “both as a referee and an athletes” into the current “as a good referee”, and the government now just focuses on supervision.

3. Reduce the anxiety of private partner through project financing

The project has three notable highlights in terms of financing arrangements:

- (1) The SPV acts as the financing subject, and the government or government departments do not provide commitment or guarantee for the payment. This is different from the traditional way that government undertakes the real financing responsibility through commitment, guarantee, or commitment. The new way of project financing effectively controls the rise in government debt;
- (2) This project adopts the project financing mode. The banks only require the SPV to pledge collateral on its lawfully account receivables (i.e. all rights and benefits enjoyed under the concession agreement). The banks don’t require the SPV itself or its parent company to provide other assets as collateral to achieve project financing;
- (3) It adopts the loan tender to help the project obtain the lower loan interest rate, and reduces the SPV’s fund burden for the operation process.

4. Incentive the private partner to improve service quality by setting up performance appraisal

Chizhou formulated the *Measures for assessing the service of Chizhou main urban area sewage treatment and municipal drainage (provisional)*. The municipal government set up a working group for the services assessment of the main urban sewage treatment and municipal drainage. The main assessment contents include the operation and maintenance of the sewage treatment plants, drainage network and pump stations with a total of 95 indicators. A punishment mechanism was also set up. At the same time, the medium-term evaluation mechanism was established. The mid-term evaluation was conducted every 3 years during the 26-year concession period, and the performance of both parties will be evaluated comprehensively to guide and adjust the contract execution. Through the performance appraisal and the medium-term evaluation mechanism, it can effectively create incentives for the private partner to better operate the project, and improve the project efficiency.

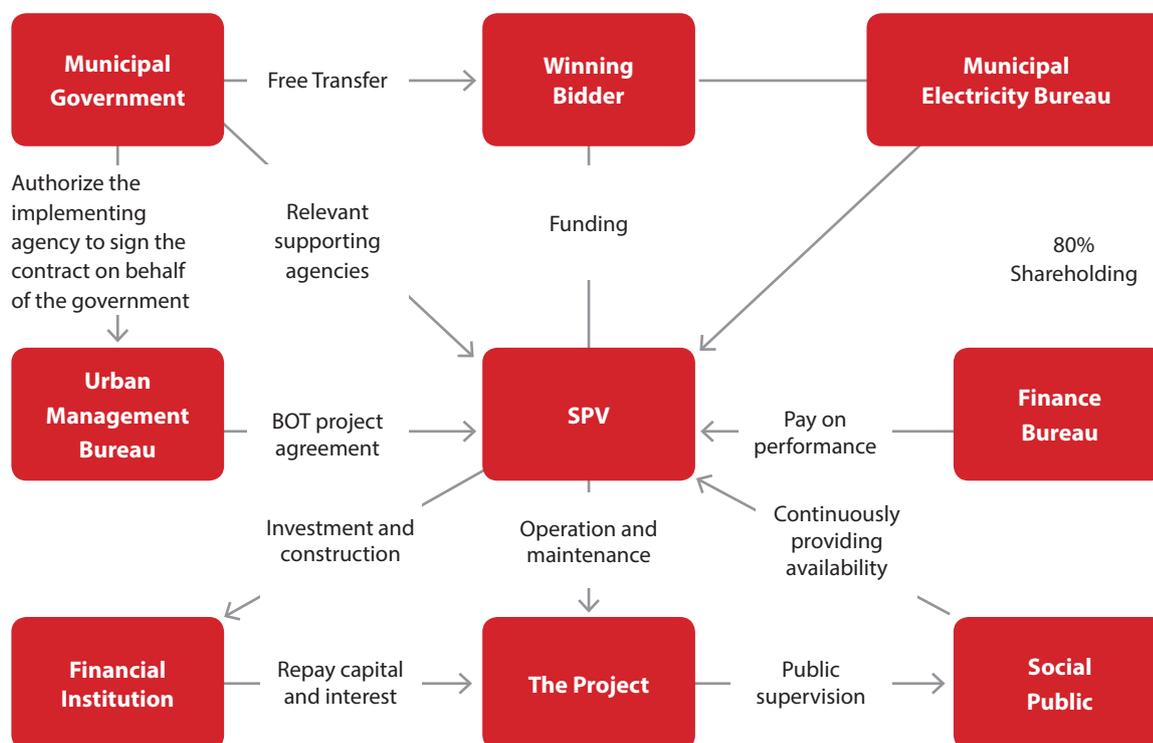
Case 2: PPP Project on Municipal Solid Waste Incineration for Power Generation in the Central Area of Yongzhou

The total investment of the PPP project is RMB 380 million with a cooperation period of 30 years. This project promotes the utilization and harmless treatment of household waste and accelerates the construction of resource-conserving and environment-friendly society.

Basic Information of the project

Project Name	PPP Project on Municipal Solid Waste Incineration for Power Generation in the Central Area of Yongzhou
Project Type	Greenfield
Sector	Waste Disposal
Cooperation Content	The total investment of this project is RMB 380.16 million. The main content of the project is constructing a new waste incineration power plant with the treatment capacity of 1,400 tons/day (Two-phase construction and the first phase has a treatment capacity of 800 tons/day) and a landfill. After the selection of private partner via the open competition, a SPV has been established in Yongzhou, and the SPV will be responsible for project investment, financing, construction, operation, maintenance, and transfer.
Cooperation Term	30 years (including the first phase of the construction period of 2 years),
Type of PPP	Build-Operate-Transfer (BOT)
Payment Mechanism	Waste incineration power generation revenue + Viability gap funding
Implementing Authority	Yongzhou City Urban Administrative and Law Enforcement Bureau
Procurement	Open Tendering
Winning Bidder	China Everbright International Group Ltd.
Contract Date	October 21, 2015
SPV	Company Name: Everbright Environmental Energy (YONGZHOU) Co., Ltd. Date of establishment: February 24, 2016 Ownership structure: The government does not share the SPV. The SPV is wholly-funded by the winning bidder.

Project Transaction Structure



The highlights of this project are as follows:

1. Resettle the existing staff in an innovative way

As the new municipal solid waste incineration power plant replaces the original landfill site, the original landfill workers are all “passive” unemployed.

After fully investigation, the project has a total of 49 employees to be resettled, including temporary secondment staff, long-term employment, labor dispatch personnel, and temporary employment. Some of them are state-owned and others are contract workers.

In accordance with the principle of openness, fairness and impartiality, respecting the wishes of workers and safeguarding the legitimate rights and interests of employees, this project has scientifically developed the following staff placement scheme.

First, the state-owned employees (mainly for temporary secondment and long-term employment) identity were reserved. They were tuned to the government supervisors and they were placed by the government.

Second, for the contract employees (mainly including labor dispatch personnel and temporary employees) could choose to enter the SPV on a voluntary basis. If the contract employees choose to enter the SPV, the SPV should be unconditionally responsible for accepting them (if the contract employees' qualification does not meet the requirements of the SPV, then the SPV is responsible for providing training). The SPV should ensure the employees' income is not less than the previous total income level. If the the contract employee does not accept the above resettlement, then they may apply for self-employment or looking for jobs by themselves.

2. Establish a rigorous and sound project supervision system

As a significant environmentally sensitive project, the public is particularly concerned about sulfur dioxide, nitrogen oxides, suspended particulates (such as dust, smog, PM10, etc.), toxic micro-organic pollutants (such as poly-cyclic aromatic hydrocarbons, polychlorinated biphenyls (PCBs), dioxins, etc.) produced by the project. Without timely and enough supervision, it is very likely to discharge excessive pollutant emissions caused by major pollution of environmental accidents.

To ensure that environmental emission indicators can meet the environmental requirements of the project, a multiple supervision structure has been formed, which includes the relevant government departments, the implementing authority, the third-party organization and the public. The comprehensive and multilevel project supervision system has been established to regulate the operation of the SPV, including administrative supervision, performance supervision, third-party supervision and public supervision.

3. Solve the new and old facilities operation problems

Adopting municipal solid waste incineration to replace the previous landfill treatment leads to the closure of the previous landfill. But the operation and maintenance of the previous landfill treatment are still needed to avoid the secondary pollution like leachate, biogas, odor etc. in a considerable period of time after the closure of the landfill. This project integrates the maintenance and operation of the closed municipal solid waste landfill site into the transaction of this project, and the operating cost of the municipal solid waste landfill is considered by the private partner in the subsidized unit price of the municipal solid waste incineration.

Through the ingenious design of “packaged” operations of the new and old facilities, it increases the project facilities’ operation scale effect, strengthens the market value of the project, properly solves the problem of maintenance and operation of the original municipal solid waste landfill, ensures the transaction quality of the project, and eliminates the worries from the government.

6.5 SOUTH AFRICA

Case Study 1: South Africa Renewable Energy IPP Program Case Study

Background²

In 2009, the government of South Africa embarked upon an investigation of different mechanisms to accelerate and sustain private investment in renewable energy. First, however, legislation had to be enacted which would allow an entity other than Eskom, the State-Owned-Enterprise (SOE) to generate electricity as existing law only allowed electricity generation to be undertaken by Eskom. The legislation was thus enacted which would permit power generation for sale by independent power producers.

The initial effort focussed on feed-in tariffs (FITs) where government independently determines the price to be paid for electricity from a specific generating technology, but this was later rejected in favour of competitive tenders. Among the reasons for choosing competitive tenders was the ability to impose Socio-Economic Development (SED) requirements on the winning bidders, upgrading and facilitating the development of the communities where the renewable energy generating facility was located.

Thus, the Renewable Energy Independent Power Producer Procurement Program (REIPPPP) was launched. The underlying premise of the program was to publish renewable energy competitive tenders for the different types of renewable energy, and contracts would be executed between the winning bidders and Eskom, who would be the sole purchaser of the electricity produced at the awarded tariff.

The REIPPPP program successfully channelled substantial private sector expertise and investment into the grid-connected renewable-energy programme at competitive prices.

By 2014, a total of 64 projects had been awarded to the private sector. They involved private sector investment totalling US\$14 billion. 3922 Megawatts (MW) of renewable power will be generated. Many are on-line today. During the course of the bidding for these projects, the average solar photovoltaic tariff decreased by 68 percent and the average wind tariff dropped 42 percent.

The bidding process and the results

The initial Request for Proposals (RFP) were issued in August of 2011. A compulsory bidder’s conference was held, with over 300 potential bidders in attendance. By the close of bidding, some 53 bids were received for a total of 2128 MW of renewable energy power. 28 bidders were selected offering 1416 MW (worth US\$6 billion), with financial close coming before the end of 2011. The first project came on line in November 2013.

² This case study is partially based upon “South Africa’s Renewable Energy IPP Procurement Program: Success Factors and Lessons”, published by the Public-Private Infrastructure Advisory Facility of the World Bank Group, dated May 2014, the authors of which are Anton Eberhard, University of Cape Town, Joel Kolker, World Bank Institute and James Leigland, Private Infrastructure Development Group. In the “Rights and Permissions” statement in the document, it is stated the work may be reproduced as long as there is full attribution.

In November of 2011, based upon the results to the first round of bidding, a second round was announced, but with the total amount of power to be acquired reduced and other measures introduced to increase competition. Seventy-nine bids were received with nineteen ultimately selected and contracts concluded in May 2013.

A third round of bidding commenced in May of 2013 with a further capacity restriction. 93 bids were received in August 2013, for a total of 6023 MW. Seventeen bidders were eventually chosen for a total of 1456 MW. Prices were lower in this round, local content increased and financial closure obtained.

A fourth round of bidding was undertaken in 2014; however, at this time resistance to the execution of further IPP contracts emerged. The contracts awarded were not executed by government. Among the reasons advanced were that two large coal-fired power plants were about to come on line; hence there was no need for renewable energy. Newspapers reported a pending deal for a nuclear power plant. This stand-off remained until December 2017, when a change in the Presidency and in the Department of Energy led to the execution of the pending unsigned IPP agreements by government.

A wide variety of domestic and international project developers, sponsors and equity shareholders responded to the first three REIPPPP bid rounds. A hundred different shareholder entities were involved in the 64 successful projects, 46 of these in more than one project. Participating financial institutions have included banks, insurers, Development Finance Institutions and international utilities. Project finance was the most common financing structure, although for about a third of the projects in the third round, corporate finance was used.

Commercial banks provided most of the debt funding, with the balance from Development Finance Institutions, and pension and insurance funds. South Africa was the source of 86% of the debt, with 15-17 year tenors.

Key Success Factors and Challenges

Program Management Factors

The largely ad hoc institutional status of the South African National Department of Energy Independent Power Production Unit (DOE IPP) permitted a straightforward, solution-based process rather than the enforcement of time-consuming administrative arrangements. Absolute transparency and quality were also key characteristics of the initiative. The DOE IPP management team, including its team leader, had extensive PPP expertise and credibility with both private sector and public stakeholders. The team was also able to overcome the mistrust private business has that sometimes restricts the public-private dialogue in South Africa.

The team's ability to secure resources to implement a quality program was also extremely important. These resources included the appointment of experienced advisors who instructed on international best practice regarding IPPs into the South African context.

While these successes are considerable and remarkable, some observers have noted that the ad hoc nature of the institution is a weakness as well, and that in order for the IPP program to be sustainable, institutional capability will need to be installed within a formal institution, preferably with an independent grid system and market operator. Because of the fact that a national election is to be held in 2019, it is highly unlikely that this will occur prior to that time.

The initial design of REIPPPP was determined by the lessons of an earlier, unsuccessful effort that used feed-in tariffs and evolved over the three following rounds of bidding.

REIPP offered a quick means of rolling out new generating capacity and the size and structure of the bidding process meant that there would be multiple bid winners, an important private sector participation incentive. Because of the “REFIT-like” tariff caps in the first round of bidding, REIPP offered the means for developers to make reasonable profits by bidding just below those caps. The shift to competitive tendering thereafter caused the tariffs to come down sharply over the two following rounds.

Confidence in the program was built over the next two rounds because of the substantial capacity allocations. South Africa’s PPP Regulation was determined not to apply to SOEs, which allowed for much less complex procurement processes. Furthermore, an exemption from certain provisions of the Preferential Procurement Policy Framework Act also assisted in the speed with which the program was implemented.

The fact that the tender processes required financing with both debt and equity worked as a disincentive to bidders’ “lowballing” a particular tender. Everyone had to have “skin” in the project.

Finally, the fact that the IPP agreement was non-negotiable meant that the time for financial close of the tender with a particular bidder was minimised. A great deal of work had gone into the development of the IPP agreement over the years to ensure that it was fair and equitable to both parties.

As with any program involving a wide spread of technologies and a broad spectrum of financing mechanisms, there were some design shortcomings and the size of the local renewable energy market was initially overestimated.

There was – and is – a substantial opposition to any tendering program seemingly aimed only at large, financially endowed, organisations by the South African small and medium business institutions. Much of this opposition was overcome by requiring significant small and medium enterprise (SMME) participation in the tender documents.

Political/Labour Union Challenges

In the view of many, the most significant challenge to replicate and carry on this most successful of renewable energy generation programs is to overcome the substantial opposition of South Africa’s organized labour organisations, particularly those unions affiliated with coal mining and with the operation and maintenance of coal-fired electricity generating plants.

The current political structure depends upon maintaining amicable relationships with labour unions. There is no unanimity within the labour movement in South Africa as to the IPP program. In fact, among the two major labour union associations, the future reaction to the re-invigorated IPP program is unclear.

With a national election to be held in 2019, it is important to assume that all elements within the political spectrum will be analysing their position on a host of issues, among them, IPPs. Recent instances of “load shedding” by Eskom has not helped these decision-making processes, as the South African economy is struggling to obtain and retain upward momentum.

Lessons Learned

The South African experience suggest several key lessons for successful renewable energy programs in other markets.

It is clear that private sponsors and financiers approve of a procurement process that is well designed, transparent, and timely. The ability to obtain agreement on a “non-negotiable” IPP contract is a strong signal that IPP procurement processes can be fair, equitable and profit-yielding.

The elimination of key risks by government also is important, especially in terms of seemingly-related processes that will not necessarily result in more dependable renewable energy production. Of course, there should be at least an implied payment guarantee upon appropriate performance.

Renewable energy costs are falling, even as the costs of oil are rising. Even among the multitude of renewable energy alternatives, tariffs are reasonable.

Social economic development programs are easily implemented alongside renewable energy generation. There is sufficient experience, worldwide, that SED should be a part of every renewable energy contract.

As with any program in the public sector, it is important to have a political champion for the renewable energy initiative, and all participating organizations should provide the information, data and background necessary. Formation of a renewable energy production institution should be encouraged, as it provides the means for providing the required support to the champion.

Finally, early detection of potential challenges is important. With IPP agreements running 15– 20 years, it must be recognized that many different challenges will arise over the contract period. Recognition thereof, and a well-defined action plan in response to each, are two ongoing, continuous obligations of each stakeholder in the renewable energy production industry.

Case Study 2: The Gautrain Rapid Rail System

Background

The Gautrain Rapid Rail Link Project is one of the biggest Public Private Partnership (PPP) transport infrastructure ventures undertaken in Africa. The Gautrain Project is also the first ever rapid rail transport system implemented in South Africa.

Both the scope and the novelty required sound management of all of the different parts of the project.

The precise point of departure marking the beginning of the long journey of managing the PPP was the moment, on 26 September 2006, when the main contract regulating the project was signed. Known as a “Concession Agreement” the contract was signed between the successful bidder, Bombela Concession Company (Pty) Ltd and the public partner, the Gauteng Provincial Governments (GPG).

Various stakeholders were directly and indirectly involved in managing the PPP Contract during the different periods of the project:

- The Gauteng Provincial Government (GPG), the initiator of the Project and the public partner in the PPP Project;
- The National Treasury and National Department of Transport the main public sector capital contributors to the Project;
- The Gauteng Department of Public Transport, Roads and Works as the Gautrain proponent;
- The Provincial Support Team (PST) appointed by the GPG to run the project on behalf of the public partner during the planning and development phases;
- The Concessionaire, Bombela Consortium as the private partner in the PPP Project; and
- The Gautrain Management Agency, (GMA) established as a special agency in 2009 in terms of the GMA Act of 2006, enacted by the Provincial Legislature, to manage, co-ordinate and oversee the Gautrain Project during the Operational Period of the Project.

Three managerial decisions provided the Gautrain management with the means to successfully plan, develop and implement the project.

The first was the development, in 2003, of the Province Support Team consisting, at its peak, of over a hundred engineers and other specialist consultants whose technical capabilities propelled the Project through the planning and feasibility phase.

The second was the retention of the Provincial Support Team expertise during the Development Period where it played several “contract management” roles in terms of the protracted design, environmental review and construction processes. The Team was also useful in establishing the Gautrain Management Agency to represent the Gauteng Provincial government. This empowered the Province to dedicate an oversight team that has the responsibility of handling the management functions during the operational period.

Third was to appoint independent certifiers for the Project to review and approve all the construction work, per milestone. It is not possible to manage a PPP without independent certifiers, which is why the South African National Treasury requires them to ensure that all key elements of the project, from construction completion to achievement of Socio-Economic goals are achieved.

The Challenges in Managing a Transportation PPP

Partnership Approach

By its very nature, relationship management in a PPP involves development and implementation of a partnership between the public and private sector partners. Each partner fulfils a different role in a PPP, with the public partner being the owner, partial financier and policy director and the private partner being the developer, partial financier and operator of the Project.

A collaborative working relationship must be implemented from the outset and supported by a communication systems designed to enhance the partnering relationship throughout the life of the Project.

The Gauteng Provincial Government, as the public partner must keep communication lines open with the private partner and concessionaire. Weekly management meetings are held as well as quarterly liaison meetings. The purpose of the liaison meetings was to review the private party's performance and resolution of any disputed matters relation to the performance monitoring system.

The two Chief Executive Officers further held a quarterly review of both party's performance.

Asset Management

As the owner of the assets, Gauteng Province must ensure that the private partner maintains all of the assets for the entire concessionary period – nineteen and a half years – until March 2026.

Asset management includes maintenance and assurance of the asset. The Gautrain Management Agency has the task of assuring that the private partner maintains and manages the assets in strict accordance with the Concession Agreement. The private partner is required to adhere to good industry practice, including standards recommended by the original equipment manufacturers.

Performance Management

Effective performance management is essential to the successful functioning of the service during the operational period. The Gautrain Management Agency is the responsible agency in this regard. Performance management includes, among others, asset management, maintenance and assurance, the patronage guarantee, fare evasion, performance incentives, actual total revenues, capacity increases and any other matters relating to the system operation.

The abbreviated table, below, indicates the performance against two standards: Train Service Availability and Train Service Punctuality in 2015.

Performance Measurement Description	Target	Measurement/Assessment
Train Service Availability	95%	97%
Train Service Punctuality	90%	93.38%

The success of the Performance Management System can be attributed to –

- Establishment of specialist committees to deal with the different aspects of performance management;
- Conducting regular inspections and issuing non-conformance reports to ensure maintenance of service standards;
- Holding regular Performance Management System meetings; and
- Applying the penalty system judiciously in consultation with the private partner.

Financial Management

The initial Financial Management task was to ensure that the project was completed within the Budget. As a PPP with a long lifespan, various risk factors can impact on the budget and must be closely managed. These include construction cost overruns, delays, reduced usage, higher operating costs and changes in interest and exchange rates. The Gautrain financial model anticipated changes in exchange rates and inflation, which mitigated their affect.

Ensuring that payments are made on time is another essential function of Financial Management. Payments must be made on time or heavy penalties may be imposed. During construction, payments were made upon the achievement of specified milestones.

Since the signing of the Concession Agreement in 2006, there has not been a single late payment.

Risk Management

Assuming most of the risks associated with the design, construction, financing, operation and maintenance of the Gautrain is the responsibility of the private party, per the concession agreement. Ensuring that the private party does, in fact, assume the risks as set forth in the concession agreement is the responsibility of the Gautrain Management Agency, in an oversight role.

Dispute Management

Disputes are inevitable in a PPP because the public and the private parties have different roles and different interests. The Gautrain Concession Agreement provides for the management of disputes by a dispute resolution structure and process. There is a process for technically related disputes and a different process for other types of disagreements.

Brand development and stakeholder management

Both of these matters fall under the communications and marketing functions of the Gautrain Management Agency. Brand development influences the perceptions stakeholders have as to the value created by the Gautrain and ultimately impacts on its success. Stakeholder management has been crucial to the Gautrain's success. Gautrain has multiple and varied stakeholders that change in tune with the dynamic nature of the Gautrain system. The Gautrain communications function has developed a stakeholder categorizing and situational model which adapts stakeholder communications to fit the then-current set of facts.

What have we learnt?

What is working well

Anticipating future needs has proven invaluable, allowing the Gautrain management to more proactively to address the situation. Thorough planning and feasibility studies were conducted which provided the foundation for anticipating future needs. Retaining skills has also proven of great value. The active management of the partnership is another basic learning. Consistent, ongoing, meetings and discussions whereby both parties are "in the loop" have proven their worth, time and again.

With the identification and separation of the various Gautrain functions and applying appropriate management to each underscores the importance of each function and provides the means whereby their co-ordinated management has had positive results.

Achieving value for money which has, as its long-term goal, sustainable socio-economic growth for Gauteng, has worked well. The total commitment of both the private party and the Gautrain Management Agency to it has been of significant consequence.

What did not work well

The different nature of the functions performed during the Development Phase and during the early days of the Operational Phase posed a challenge for both parties in terms of Contract Management. The problem was mitigated by the Variations processes in the Concession Agreement.

Not all risks were correctly assigned to the private party, particularly in the transition from the Development Phase to the Operational Phase.

Dispute management was not always successful.

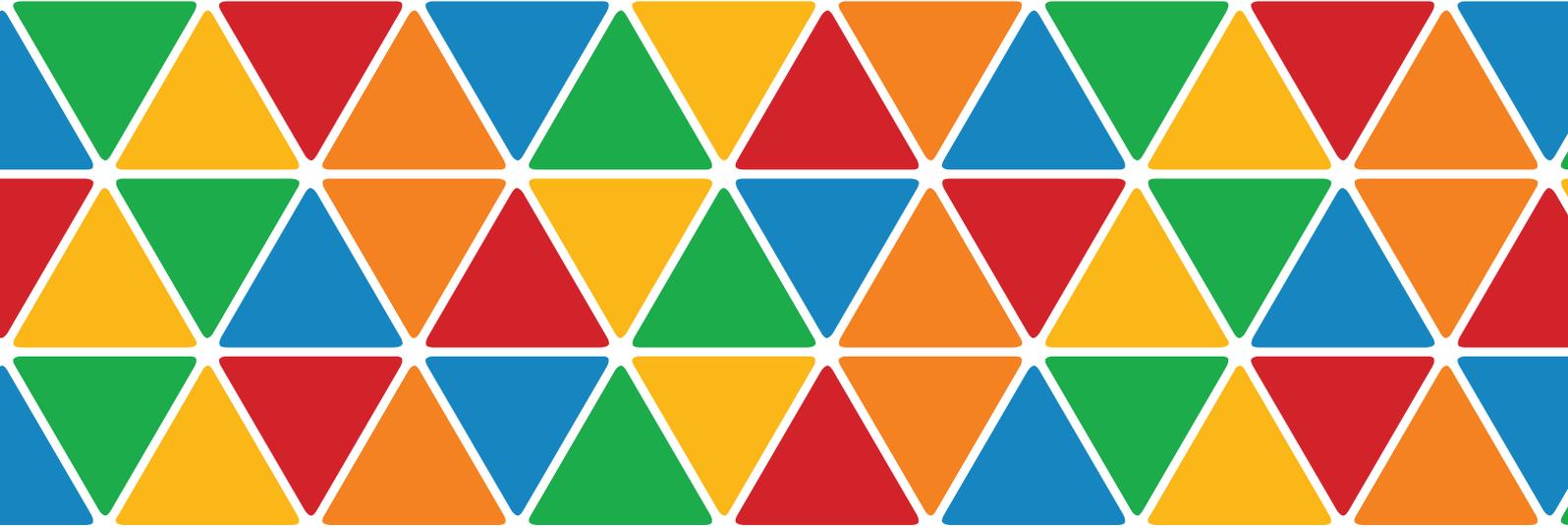
Moving forward

The experience in the development of the existing Gautrain Rapid Rail system will be of great assistance to the Gauteng Province and the Gautrain Management Agency as it embarks upon the dual tracks of procuring additional rolling stock and extending the existing system to additional municipalities within the Province.



**GOOD PRACTICES ON
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2018 UPDATE



REPUBLIC OF SOUTH AFRICA