



THE WORLD ASSOCIATION OF PPP UNITS & PROFESSIONALS

18 June 2022

A New Sector for Public-Private Partnerships: Just Transition PPPs

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Abstract

The global commitment to reach ‘Net Zero’ carbon emissions by 2050 will, necessarily, lead to the closure of a massive number of coal mines and coal power plants in many countries – with dramatic impacts upon workers and communities in those regions where such carbon-intensive industries have historically been dominant. Governments have recognised the need for actions to be taken to ensure ‘Just Transitions’ for the affected individuals in such regions. In the words of the declaration signed by seventeen countries at the 2021 COP26 Summit in Glasgow, what is needed is “Green growth, decent work, and economic prosperity in the transition to net zero”. To date, those governments that have attempted to undertake Just Transition programmes have primarily relied upon the public sector to deliver the required services and facilities. This paper argues that, as an alternative, government should also consider implementing Just Transition initiatives as Public-Private Partnership (PPP) projects.

Overview of Public-Private Cooperation in Just Transitions

Traditionally, governments which have undertaken ‘Just Transitions’ programs for coal mine and coal power plant closures have done so using an approach primarily reliant on the public

sector, whereby the program is delivered by one of, or a combination of, the following types of entities:

- a government ministry or a combination of ministries;
- a pre-existing State-Owned Enterprise (SOE); and/or
- a Special Purpose Entity (SPE), created by the state to carry out the program.

Under this type of approach, the public sector entity may decide to work with private sector companies on individual aspects of the Just Transition program – such as, for example, reclamation works on the site of the former mine, or the construction of a new health clinic for the affected local community.

Typically, this type of engagement with the private sector is done using a conventional public procurement model, known as Traditional Infrastructure Procurement (TIP). Under this model, the public authority:

- defines the work to be done by the private sector;
- develops specifications for that work, including how the work is to be done;
- develops a Request for Proposals (RFP), setting out those specifications;
- conducts a competitive procurement process; and
- awards the contract to the winning bidder.

Typically, the contracts for such work are of a short-term nature (usually lasting for less than a few years) relative to the long-term nature of the overall Just Transition program (which may last for 20 years or longer).

As an alternative to this traditional approach to Just Transitions, it should be possible, at least in some situations, to achieve effective Just Transitions through a comprehensive and holistic plan for private sector engagement, using Public-Private Partnerships (PPPs).

The Just Transition PPP (JT-PPP) Concept

The Just Transition PPP (JT-PPP) concept is designed to take advantage of the private sector's ability to deliver complex projects effectively and efficiently, while preserving the ability of the government to have full oversight of the process and to achieve 'Value for Money' in the delivery of a Just Transition program.

The JT-PPP concept relies on two critically important PPP techniques, namely:

- having the government party in the PPP transaction – i.e., the Contracting Authority (usually a government ministry) – competitively tender the project, using output

specifications (as opposed to using input specifications, as is done in the case of Traditional Infrastructure Procurement projects); and

- having a PPP Contract under which payments are only made to the winning bidder – i.e., the entity that will form the PPP Project Company – only if and when the service is being delivered in full accordance with the output specifications set out in the PPP Contract.

PPP projects basically fall into three categories:

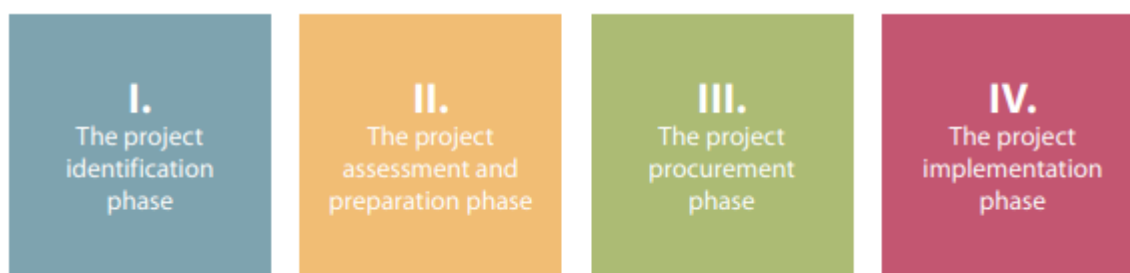
- Availability Payment PPPs, where the Project Company receives payments from the Contracting Authority over a period of years when the facilities and services are available for use (as is the case, for example, in a hospital building and maintenance PPP project);
- End-User Payment PPPs, where the Project Company receives payments from the users of the facilities and services (as is the case, for example, in a toll road concession PPP project); and
- Hybrid PPPs, which employ a mix of Availability Payments and End-User Payments (as is the case, for example, in a toll road concession PPP project where the Contracting Authority has provided a minimum revenue guarantee).

A Just Transition PPP would, in most instances, be a Hybrid PPP – primarily having the characteristics of an Availability Payment PPP, but with some elements of an End-User Payment PPP.

To illustrate the operation of the JT-PPP concept, it is appropriate to begin with a brief description of the PPP Project Cycle. The various stages in the PPP Project Cycle are set out in the following illustration, taken from the *EPEC Guide to Public-Private Partnerships*¹ published in 2021 by the European PPP Expertise Centre (EPEC), a division of the European Investment Bank.

¹ Available at <https://www.eib.org/en/publications/epec-guide-to-public-private-partnerships> <https://www.pppinindia.gov.in/documents/20181/33749/PPP+Guide+for+Practitioners/e3853cb9-ac07-4092-b8ac-60a8c4d4ed35>. See Page 13.

Figure 1: The PPP Project Cycle



The principal activities which take place during these four phases are as follows:

- **Phase I: the Project Identification Phase**, during which the Contracting Authority identifies the proposed project and makes a preliminary determination as to whether it should be delivered as a PPP project;
- **Phase II: the Project Preparation Phase**, during which feasibility studies are prepared, risk allocation plans are developed, and the proposed PPP Contract is drafted;
- **Phase III: the Project Procurement Phase**, during which the Project Company is competitively selected, followed by the signing of the PPP Contract by the Contracting Authority and by the winning bidder's Project Company; and
- **Phase IV: the Project Implementation Phase**, the long-term phase during which the Project Company delivers the project, with the Contracting Authority monitoring the Project Company's performance.

Against this background, the nature of the proposed JT-PPP concept can be shown using the following hypothetical scenario. Assume, for example, that a Contracting Authority had selected (during the Project Identification Phase) six coal mines that it wished to close using a JT-PPP approach, and had established a budget of USD 300 million, to be spent over 20 years, for that purpose. The funds for that USD 300 million expenditure could come from various sources, such as:

- general government revenues (including savings on coal mine subsidy payments);
- funding, in the form of concessional loans or grants, from a Multilateral Development Bank (MDB) – such as the World Bank – or from a bilateral aid agency; and/or
- a levy on the mining companies (if the mines were privately operated).

On this basis, the Contracting Authority would be providing USD 300 million in funding. In this regard, it is important to keep in mind the distinction between financing and funding:

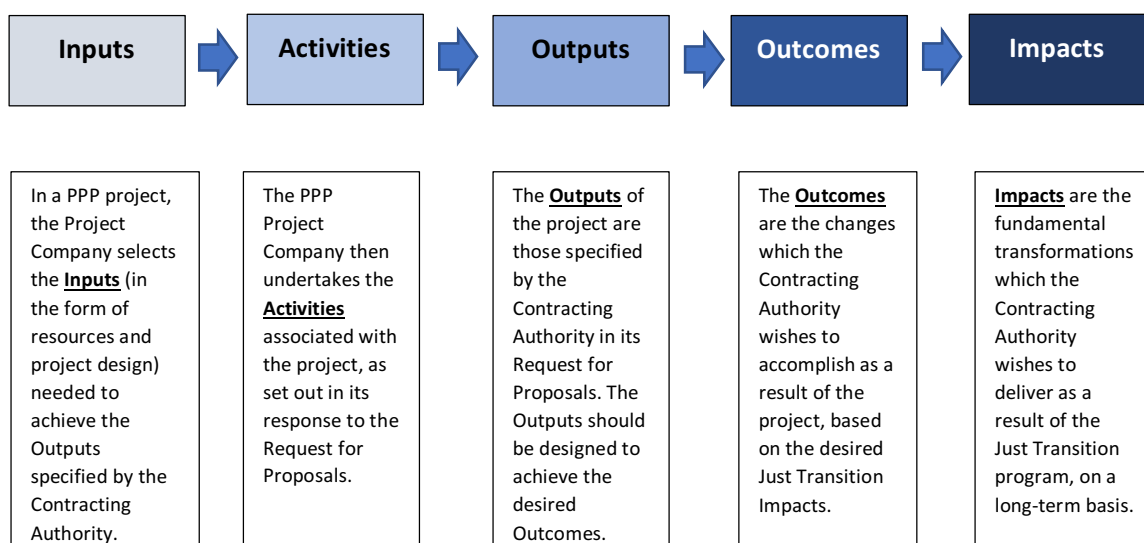
- **financing** is the mechanism used to pay for the ‘upfront’ costs of the project until such time as Availability Payments and/or End-User Payments start to flow, and this financing is usually obtained by the Project Company through a combination of (i) debt, in the form of loans or bonds; and (ii) equity contributions made by the shareholders of the Project Company;
- **funding** is the mechanism used to pay for the project over its lifetime, whether by Availability Payments (made by a Contracting Authority) or by End-User Payments (made by the members of the public who use the services provide by the project) or by some combination of Availability Payments and End-User Payments.

With this USD 300 million funding budget in hand, the Contracting Authority would prepare (during the Project Preparation Phase) and competitively procure (during the Project Procurement Phase), a Just Transition PPP, whereby the mines and the accompanying lands and associated infrastructure (such as railyards, waterworks, etc.) would be awarded, for the prescribed 20-year period) to the qualified bidder who proposes the least-expensive Availability Payment amount (on a Net Present Value basis).

As part of the competitive tendering process, the Contracting Authority would stipulate the **Output** specifications, which the Project Company will have to meet. (These Output specifications would be set out in the draft PPP Contract included with the package of documents given to bidders).

The development of suitable Output specifications is the critical aspect of the process. To do this, the Contracting Authority should use a standard ‘logic model’ approach, working in reverse. Figure 2, below, illustrates a basic logic model for a Just Transition PPP project.

Figure 2: A Basic Logic Model for a Just Transition PPP Project



As indicated in Figure 2, the Contracting Authority should identify all of the **Outcomes** it wishes to accomplish – including economic, environmental and social outcomes, such as, for example, regional employment levels – based on the long-term **Impacts** that the Contracting Authority wishes to deliver with its Just Transition program.

After doing so, the Contracting Authority should then work backwards to identify the **Outputs** that will yield the desired Outcomes. These Output specifications could, for example, set targets for:

- the rehabilitation of land and waterways associated with the mine site;
- the elimination of methane emissions from a closed mine;
- the development of flexible, market-driven retraining programs for mine workers (which, ideally, would be made available before the mine was closed);
- social infrastructure development, such as additional healthcare and social service facilities, in the surrounding communities; and
- meeting the special needs of vulnerable groups, such as children, indirectly affected by the closure of the mine.

Once the Outputs have been specified, the PPP Contract would be drafted so as to specify the required Outputs and the Key Performance Indicators (KPI) used for measuring their achievement (such as community healthcare statistical measures, air quality indicators, etc). It is then left to the ingenuity of the private sector to design Inputs (including process designs and necessary resources) to achieve the specified Outputs, in the most efficient manner, during the Implementation Phase of the project.

In addition, the PPP Contract would specify the conditions under which the Contracting Authority will make Availability Payments, and would describe the ongoing KPI tests that would be used to ensure that the desired Outputs continue to be achieved. Also, the PPP Contract would set out the opportunities available to the Project Company to obtain income from end-users – by, for example, capturing the value of improvements to the land on which the coal mines are located. Further, the PPP Contract would provide for the handback of the land (and any associated infrastructure facilities) to the Contracting Authority at the end of the project, along with specifications as to the condition of the assets at that time.

As is normally the case for PPP transactions, the winning bidder would establish (at the end of the Procurement Phase) a special-purpose corporate entity to act as the Project Company. That Project Company would then sign the PPP Contract with the Contracting Authority, and also enter into sub-contracts with various Service Delivery Companies, to provide the requisite services.

Given the complexity of the Outcomes being sought, it will not be an easy task to draft appropriate Output specifications – but there are some precedent PPP arrangements which could provide guidance. For example:

- the Gautrain Rapid Rail PPP project in South Africa (Figure 3, below), which had extensive Socio-Economic Development specifications in the PPP Contract, including an elaborate penalty and reward regime, with independent verification; and
- the Pan Am Games Athletes’ Village PPP project in Canada, which included detailed job creation and social inclusiveness specifications in the PPP Contract, designed in cooperation with the Waterfront Toronto Employment Initiative.

Figure 3: South Africa’s Gautrain ²



Again, one of the keys to the success of the concept is the distinction between Outcomes and Outputs. In all likelihood, the private sector will not be prepared to accept the risks associated with achieving targets that are imprecise or too broadly defined. However, the private sector should be willing to assume the risks associated with the achievement of clear Output specifications.

² Photo Credit: Zulu News TV Blog, Bioclear South Africa, at https://commons.wikimedia.org/wiki/File:Gautrain_zulu_news_tv_blog.jpg

Value for Money

The desire of governments to achieve Value for Money (VfM) – in the sense of maximising the public goods and services that can be delivered using taxpayers’ money – is what drives Public-Private Partnership programs.

A Value for Money assessment is a comparative tool, which is used by a Contracting Authority at various points of the PPP Project Cycle. Critically, one of the main uses of VfM assessments is to help a Contracting Authority determine, during the initial Project Identification and Project Preparation phases, whether it is appropriate to use a PPP approach – as opposed to a Traditional Infrastructure Procurement approach – to achieve the government's objectives. In other words, the Contracting Authority ought to make a VfM assessment to compare a PPP option with a traditional TIP option, to ascertain which approach will produce better value for taxpayers.

The VfM assessment tool forces the Contracting Authority to make the calculations necessary to achieve a fair comparison between the PPP option and a TIP option.

In the context of a Just Transition program, this will involve a comparison of the traditional Government Ministry/SOE/SPE approach with the proposed JT-PPP concept. Depending on the precise nature of the proposed Just Transition program, the VfM assessment may produce different results in different circumstances:

- the VfM assessment could reveal that a JT-PPP approach will be the most effective option;
- the VfM assessment could reveal that a TIP approach is likely to be the superior option; or
- the VfM assessment might reveal that some elements of the proposed Just Transition program are best delivered by the public sector, while other elements are best delivered using a JT-PPP.

A proper VfM assessment is a complex task. It involves both:

- a quantitative assessment (with detailed financial model spreadsheets, showing adjusted costs/benefits, discounted to the present time); and
- a qualitative assessment, dealing with those costs/benefits – such as environmental and social costs/benefits – which are difficult to quantify.

At the earliest stages of the Project Cycle, VfM assessments are, typically, more qualitative in nature, reflecting the limited amount of data that is initially available. Subsequently, when the

Contracting Authority begins to undertake project feasibility studies during the Project Preparation Phase of the Project Cycle, additional data becomes available, allowing for a greater reliance on quantitative VfM assessments. Given that the Contracting Authority will continue to gain additional information throughout the Project Cycle – up to, and including, the Project Procurement Phase – the Contracting Authority should conduct a number of VfM assessments, to ensure that earlier decisions regarding the choice between the TIP option versus the JT-PPP option remain correct.

During the period prior to the Project Procurement Phase, the VfM assessment will be done using a ‘Shadow Bid’ document, i.e., a calculation by the Contracting Authority as to what the bidders in a competitive procurement process are likely to propose. Of course, once the bids have been submitted, the VfM assessment can be based upon the actual proposals, as opposed to the Shadow Bid. The JT-PPP option is compared with the Contracting Authority’s calculation of what would be the costs and benefits associated with a TIP approach, as set out in a document known as the ‘Public Sector Comparator’.

A VfM assessment involves looking at the risk-adjusted costs and benefits of the alternative delivery options, over the entire life of the proposed project. It does this by comparing the Net Present Value (NPV) of the costs and benefits of competing project options, taking into account the quantity and quality of services being delivered, over time. In other words, a VfM assessment will compare:

- the benefits and costs of a JT-PPP option (including the cost of all of the Availability Payments to be made by the Contracting Authority to the Project Company, in accordance with the Project Company’s proposal) over the lifetime of the project – which will necessarily include the Project Company’s cost of financing and the Project Company’s expected return on its investment); versus
- the benefits and costs of a TIP option (including the risks associated with budget overruns and project delays, all of which would be retained by the Contracting Authority).

Finally, it should be noted that the VfM assessments can – and should – be used during the later stages of the Project Cycle. For example, the Contracting Authority should use VfM assessments to compare the relative value of competing proposals during the Project Procurement Phase, to assess which proposal provides the best value to taxpayers. In addition, during the Project Implementation Phase, VfM assessments can be used by a Contracting Authority to evaluate requests which might be made by a Project Company to renegotiate certain aspects of the PPP Contract – with the Contracting Authority using the tool to

determine the extent to which any proposed new contractual terms may undermine or enhance the original value of the project.

For all of these reasons, Value for Money assessments are a critical element of the JT-PPP concept.

Risk Allocation

Risk allocation is at the heart of every PPP transaction.

In a Traditional Infrastructure Procurement project, all risks – such as the risk of budget overruns and project delays – are assumed by the public sector. Some of these risks may be transferred, to some degree, to private sector contractors working on specific short-term tasks – but, fundamentally, the key risks (especially all operational risks) are retained by the public sector in a TIP project.

In contrast, a PPP project involves the sharing of risks between the public and private sectors. (This does not, however, mean that there will be a complete transfer of every risk to the private sector). Indeed, this risk-sharing feature of Public-Private Partnerships is a major reason for using a PPP approach, as opposed to the TIP approach. As noted above, in most PPP transactions, the private sector provides the upfront financing, and such financing will usually be more expensive to obtain than the government financing which would be used for a TIP project. However, that additional private sector financing cost can be more than offset by the value of the risks assumed by the private sector under the PPP option. As discussed in the preceding section on Value for Money, a proper VfM assessment takes into consideration the value of the relative benefits and costs of the options under consideration, on a risk-adjusted basis.

As indicated, the allocation of risks as between the public and private parties in a PPP transaction is at the center of the PPP contract-drafting process. Essentially, the process involves the Contracting Authority developing a ‘Risk Matrix’, listing all of the risks to which the project might be exposed, and identifying, in the case of each individual risk, whether it is to be assumed by the Project Company, the Contracting Authority, or whether the risk is to be shared. The general rule is that ‘risks should be assigned to the party that best able to manage the risk’.

Recently, various guidance materials have been developed by governments and by international organizations to help with this process, notably including:

- the *PPP Risk Allocation Tool*, 2019 Edition, developed by the G20’s Global Infrastructure Hub (GI Hub)³; and
- the *Guidance on PPP Contractual Provisions*, 2019 Edition, developed by the World Bank⁴.

From these tools, it can be seen that the risk allocation process is extremely detailed and carefully tailored to the specific parameters of individual PPP projects—the GI Hub tool, for instance, consists of four volumes of sample risk matrices across various sectors, totaling more than 750 pages in length.

However, on a very general and highly simplified basis, the risk allocation in a typical PPP transaction will usually be similar to that shown below in Table 1.

Table 1: Simplified Risk Matrix for a Typical PPP Project

Risks	Project Company	Contracting Authority	Shared
Design Phase			
Design cost overruns	✓		
Design delays	✓		
Fitness for purpose risks	✓		
Financing risks	✓		
Land acquisition and resettlement risks		✓	
Construction Phase			
Construction cost overruns	✓		
Construction delays	✓		
Cost overruns and delays associated with the preparation of documentation for construction-related government permits	✓		
Cost overruns and delays associated with the issuance of construction-related government permits		✓	
Selected environmental risks (depending on the nature of the project)			✓

³ Available at <https://ppp-risk.gihub.org/>.

⁴ Available at <https://ppp.worldbank.org/public-private-partnership/library/guidance-ppp-contractual-provisions-2019>.

Risks	Project Company	Contracting Authority	Shared
Operations Phase			
Operations and maintenance cost overruns	✓		
Operation and maintenance delays	✓		
Operational performance risks	✓		
Risks associated with technological changes	✓		
Cost overruns and delays associated with the preparation of documentation for operation-related government permits	✓		
Cost overruns and delays associated with the issuance of operation-related government permits		✓	
Major equipment replacement and repair	✓		
Demand risk (depending on the nature of the project, as noted in the paragraphs below)			✓
Handover Phase			
Handover cost overruns and delays	✓		
Compliance with handover performance requirements	✓		
Throughout the Project			
Cost overruns and delays associated with changes in law and government policy (other than those associated with certain limited types of changes for which the private partner is responsible)		✓	
Cost overruns and delays associated with certain limited types of changes in law and government policy (generally, not including discriminatory or project-specific changes, or changes that necessitate capital expenditures during the operations phase)	✓		
Force Majeure risks			✓

It should be noted that there is an important difference in risk allocation – particularly in regard to the treatment of ‘demand risk’ (i.e., the risk that the usage of the facilities and services will be less than anticipated) – as between the two main types of PPP transactions:

- in the case of Availability Payment PPPs, the demand risk is, typically, largely assumed by the Contracting Authority; and
- in the case of End-User Payment PPPs, the Project Company typically accepts some or all of the demand risk.

Given the major impact that risk allocation has upon the Value for Money of every PPP project, and the close relationship between risk allocation and the cost and availability of private sector financing (i.e., the ‘Bankability’ of the project), Contracting Authorities must pay particularly close attention in developing the proposed risk allocation arrangements should they choose to use a JT-PPP delivery option for a Just Transition program.

Overview of Potential Donor Support Arrangements

Given the interest that many donor organisations have in supporting the Just Transitions agenda, it may well be possible for governments in emerging markets to obtain grants or concessional loans for Just Transition programs, from both international financial institutions and bilateral aid agencies.

For example, within Europe there are vehicles to provide substantial funding and financing for Just Transition programs through the European Bank for Reconstruction and Development (EBRD), the European Investment Bank (EIB), and the European Union (EU).

The support available from these European entities is closely associated with the EU’s European Green Deal (EGD), which is a key feature of the EU’s 2021- 2027 budget. For those countries that are member states of the EU, the EGD includes a special program dedicated to Just Transitions, known as the EU Just Transition Mechanism (JTM)⁵.

Other facilities are available elsewhere in the world. In Asia, the Asian Development Bank (ADB) announced, at COP26, its Energy Transition Mechanism (ETM), under which pilot projects will be developed to assist developing countries in Asia with transitions away from coal.⁶

⁵ See https://ec.europa.eu/info/strategy/priorities-2019-2024/european-green-deal/finance-and-green-deal/just-transition-mechanism_en.

⁶ See [Energy Transition Mechanism \(ETM\) | Asian Development Bank \(adb.org\)](#)

Globally, there are various entities within the World Bank Group (WBG) which could provide support for a JT-PPP initiative.

At a sovereign level, the WBG's International Bank for Reconstruction and Development (IBRD) is able to provide concession loan financing to a government Contracting Authority, to make Availability Payments to the selected Project Company.

In addition, all of the payment obligations of the Contracting Authority to the Project Company could be guaranteed, pursuant to a Project Guarantee instrument issued by the IBRD to the Project Company. As a condition for entering into such an arrangement, the IBRD would require the Contracting Authority to enter into a Guarantee Indemnity Agreement, whereby the government would reimburse the IBRD if the Project Company made a claim against the IBRD Guarantee.

Financing for the Project Company could be provided by the International Finance Corporation (IFC), which is the entity within the World Bank Group that primarily deals with the private sector. This IFC financing could, potentially, be provided in conjunction with commercial lenders under an IFC "A/B Loan" structure. Under this arrangement, the IFC enters into a Loan Agreement (the "A Loan") with the Project Company, and then sells a portion of that loan (the "B Loan") to commercial lenders, pursuant to a Participation Agreement. The IFC also offers various other loan syndication structures.

Further, the Project Company could, conceivably, make use of a guarantee instrument issued by the WBG's Multilateral Investment Guarantee Agency (MIGA), which offers various forms of political risk insurance.

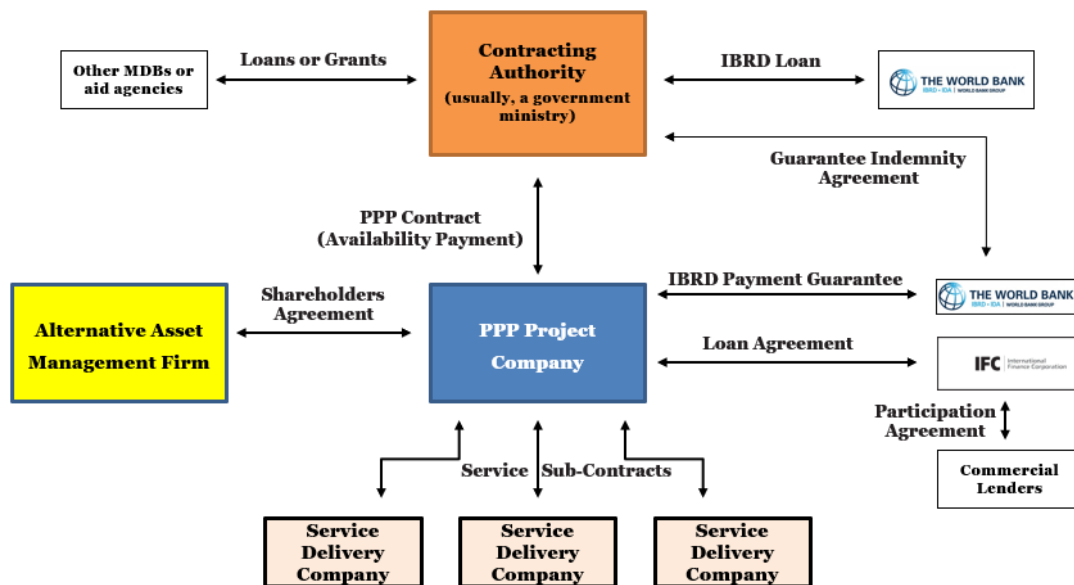
A Simplified Illustration of a Possible JT-PPP Contractual Framework, Showing Donor Support

Based on the arrangements and consideration set out above, the following Figure 4 sets out, in a highly simplified manner, a potential contractual framework structure for a JT-PPP project, showing the contractual relationships between the Contracting Authority, the Project Company (including its owners, lenders and sub-contractors), and international donors.

As can be seen, this structure contemplates that financial support could be provided to a Contracting Authority by both the IBRD and other donors. In addition, it illustrates an arrangement whereby the Project Company (owned by a specialised type of private sector infrastructure investment firm known as an "Alternative Asset Management" company) would obtain an IBRD Project Guarantee in respect of all of the payments to be made by the Contracting Authority. Finally, the proposed structure shows a Loan Agreement between the

IFC and the Project Company, with commercial lenders participating in that financing, under an IFC A/B Loan structure. This simplified diagram does not, however, describe any participation by MIGA.

Figure 4: JT-PPP Simplified Contractual Structure



Contract Management

In a PPP project, the Contracting Authority continues to play a critical role throughout the Project Implementation Phase, even after the PPP Contract has been signed (i.e., the achievement of the ‘Commercial Close’ of the PPP transaction) and after the financing has been put in place (i.e., the achievement of the ‘Financial Close’ of the PPP transaction). The ongoing role of the Contracting Authority is that of Contract Management, which is critically important in preserving the Value for Money of the project.

During the Project Implementation Phase, the Contracting Authority has key responsibilities in many areas, including:

- routine contract management, including monitoring and evaluating the performance of the private sector Project Company against the Key Performance Indicators in the PPP Contract, so as to ensure that Availability Payments are only made to the project company when it is appropriate for the Contracting Authority to do so;
- dealing with unanticipated events, such as:

- disputes between the Contracting Authority and the Project Company; and
- requests for renegotiation of the original PPP Contract;
- preparing (well in advance) for the eventual end of the PPP Contract and for the handback of facilities from the Project Company to the Contracting Authority.

To accomplish these tasks, the Contracting Authority should establish and maintain a dedicated Contract Management Team, with the training and skills necessary to deal, on an ongoing basis, with these various responsibilities for the entire life of the Project Implementation Phase – which, again, may last for 20 years or longer.

Guidance on the contract management function can be found in the Global Infrastructure Hub's 2019 publication *Managing PPP Contracts After Financial Close*⁷.

Concluding Observations – The Transformative Power of PPPs

Although no jurisdiction has, as yet, attempted to use a comprehensive Public-Private Partnership arrangement to implement a Just Transition program on the basis described above, the benefits associated with well-structured PPPs – notably including the private sector's ability to deliver complex projects effectively and efficiently, while preserving the ability of the government to have full oversight of the process and to achieve 'Value for Money' – make the JT-PPP concept potentially very attractive to governments.

The types of firms which might be interested in bidding on Just Transition PPPs, could include the above-noted Alternative Asset Management companies (such as Blackstone Inc. in the US, Brookfield Asset Management Inc. in Canada and the Macquarie Group in Australia). These firms frequently invest in both real estate and infrastructure assets and, accordingly, they should be receptive to handling the challenges (and opportunities) of coal mine closures. In particular, these firms will recognise the opportunities for repurposing abandoned coal mines sites and the infrastructure (such as road/rail, power and water supply infrastructure) associated with such sites. In addition, these asset management firms are designed to access financing from the very large pools of capital available from institutional investors, such as pension funds – many of whom are now looking for so-called Environmental, Social and Governance (ESG) investment opportunities. A properly structured Just Transition PPP might well be especially attractive to such investors.

Conceivably, as experience is gained by skilled companies in this new subsector (especially in regard to repurposing opportunities), the Availability Payment requirements in future Just

⁷ Available at <https://www.gihub.org/resources/publications/managing-ppp-contracts-after-financial-close/>.

Transition PPPs will diminish – perhaps to the point where they disappear completely, and the future projects become pure End-User Payment PPPs.

Well-designed Public-Private Partnerships have demonstrated their ability to have transformative impacts, within relatively short timeframes. Figure 5, below, is a photograph of abandoned open pit coal mines in Yeniköy, Turkey, taken in 2015, while Figure 6 shows the same location in 2018, reflecting the development of a very successful PPP project.

Figure 5: Abandoned Open Pit Coal Mines in Yeniköy, Turkey, in 2015⁸



⁸ Photo Credit: Nick Hobbs, at <https://nickhobbs.myportfolio.com/kanal-istanbul-8920-book-photos-in-order>

Figure 6: The new Istanbul Airport, delivered as a PPP project in 2018 ⁹



For all these reasons, the use of Just Transition Public-Private Partnerships should be carefully considered by countries wishing to achieve innovative, effective and cost-efficient Just Transition programs for coal mine and coal power plant closures.

⁹ Photo Credit: Sam Chui, at https://www.youtube.com/watch?v=m- -qa7DtW4&ab_channel=SamChui