# Innovation in International Development Assistance:
# Ten Years of the Private Infrastructure Development Group (PIDG)

Author: Keith Palmer[1]

## Executive Summary

The PIDG is a multilateral donor-funded organisation whose overriding objective is to help low income countries boost economic growth and reduce poverty by improving access to infrastructure using private sector capital and expertise. The idea is to use limited amounts of public funds to remove constraints deterring private investment so as to catalyse much greater amounts of private sector capital to build and operate infrastructure in these countries.

There are five distinctive features of the PIDG:

- Separate PIDG facilities each focused on removing different constraints holding back private investment but all operating within a common governance framework;
- The "partnership by contract" structure where donors collaborate to achieve a common purpose but where each of them can support those facilities that it wishes to prioritise;
- Private sector leadership and management of the PIDG companies to enable efficient and effective operations;
- Comprehensive, effective governance at the PIDG and facility levels to ensure governance rules are complied with and development impact and financial objectives are met;
- Financial structures designed to catalyse additional private capital for infrastructure in low income countries in amounts very much greater than funding provided by PIDG.

In its first decade PIDG has achieved a notable success. Total private sector and DFI capital invested in businesses supported by PIDG exceeded $26.7 billion, almost 40 times more than the PIDG funds committed during the period. More than 175 million people living in low income countries will benefit from more and better quality infrastructure services, almost three quarters of them in the very poorest countries. In 2011 an independent review concluded that PIDG was delivering "excellent results for poor people and providing very good value for the taxpayer."

The experience of the first 10 years has taught valuable lessons about how the effectiveness and value for money of PIDG can be further enhanced. The paper sets out for discussion a number of new initiatives that could generate even greater development impact in future.

As donors increasingly focus on the importance of achieving a high rate of inclusive economic growth as a necessary condition for achieving rapid poverty reduction, the PIDG approach offers a powerful means of achieving it, not only in infrastructure but also in other relevant sectors. Agriculture / agribusiness is the sector where this approach has the most obvious immediate potential but it is not the only one.

## Acknowledgements

I want to thank those many colleagues who have worked to make the PIDG successful. I particularly wish to thank Gavin McGillivray and Tim Yapp, both of whom have been closely involved in the creation of PIDG and have given me wise counsel over time and extremely valuable improvements to this paper. However, as always the responsibility remains my own.

## Introduction

Increasing access to affordable infrastructure is one of the greatest challenges facing low-income countries (LICs).[2] Current high GDP growth rates cannot be sustained unless there is heavy investment to both increase access and improve the quality of basic infrastructure such as electricity and clean water supply and transport services. However, availability of finance for infrastructure in these countries falls far short of the need. According to the World Bank Africa Infrastructure Country Diagnostic there is an infrastructure financing gap in Africa of about $35 billion every year.[3] Average power consumption is just one tenth of that found elsewhere in the developing world. Less than 30% of households have access to electricity, and less than 10% to piped clean water. The cost of infrastructure services is exceptionally high by global standards. Poor access and high cost deter productive investment in agriculture and industry and therefore put a brake on economic growth and the reduction of poverty.

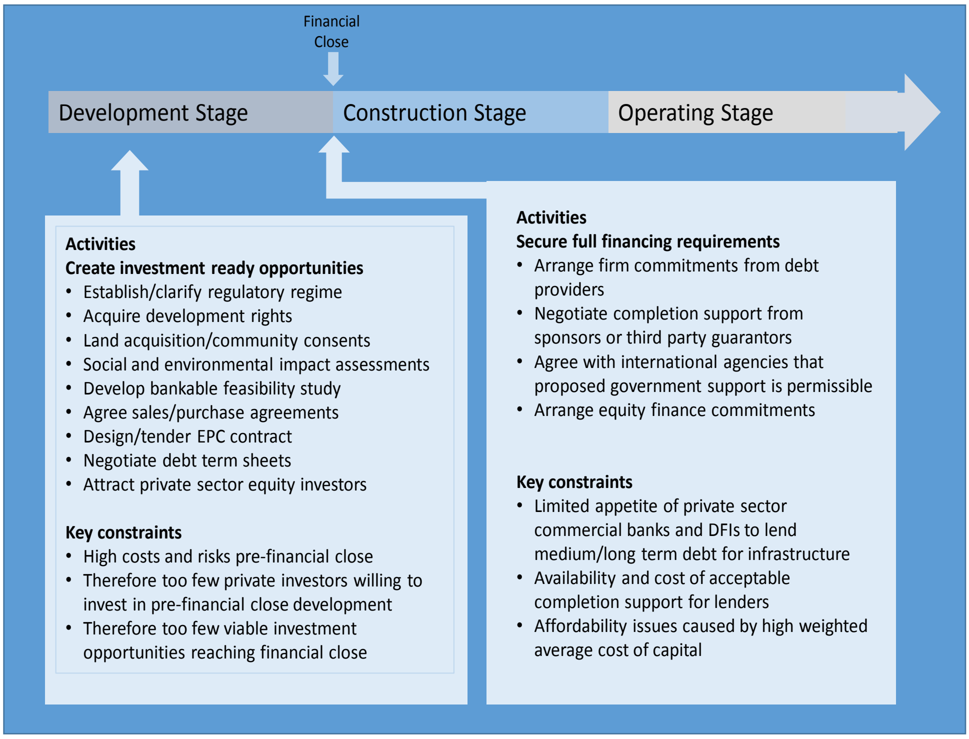
Primary responsibility for the provision of infrastructure services, and therefore for financing and implementing the necessary huge investment programmes, generally lies with State-owned utilities or government agencies. A combination of weak finances, limited implementation capacity and poor governance has resulted in massive under-investment by the public sector in the region. Even if major improvements in performance could be achieved, there is no way that State-owned utilities and government agencies could finance, build and operate infrastructure on the required scale. If the infrastructure financing gap is to be even partially closed, a major increase in privately financed infrastructure investment in these countries will be needed. Many host governments in LICs have sought to achieve this but by the turn of the Millennium the response from private investors had been disappointing.

In 2001 a small number of creative civil servants in DFID[4] set about designing a novel structure whose aim was to show that limited amounts of public funds could be invested to catalyse much larger amounts of private capital for commercially viable infrastructure investment in LICs. Out of this initiative the Private Infrastructure Development Group (PIDG) was born.[5] A decade later DFID commissioned an independent review of 43 international funds and organisations that it supports. The review concluded that the PIDG was one of only nine organisations delivering “excellent results for poor people and providing very good value for the taxpayer”. This paper explains what the PIDG is and why a decade after it was formed it was so highly rated.

## Key constraints deterring private infrastructure investment in LICs

*Figure 1* describes the key stages of the infrastructure investment cycle. First comes the *development stage* during which all the activities necessary to make investments financeable are undertaken. The culmination of the development stage is *financial close* which is the point at which the debt and equity required to build and operate the assets are committed. This is followed by the *construction stage* when the assets are built and then by the operating stage when output is sold, revenues generated and capital serviced.

**Fig 1 Constraints on Private Infrastructure investment at different stages in the Investment cycle**




Five key constraints were identified as deterring private infrastructure investment in LICs at different stages in the investment cycle.

*Inadequate or insufficiently developed policy frameworks and weak implementation capacity* Many host governments had established policies aimed at attracting private investors to build and operate infrastructure. However, by the late 1990s it became clear that in many cases the laws and regulations were inadequate and/or insufficiently developed and/or untested in practice. Moreover in most cases host governments and their State-owned utilities had very weak capacity to implement them effectively. Consequently weaknesses in the enabling environment resulted in under-investment by private investors.

*Insufficient investment-ready opportunities reaching financial close* In well-functioning markets, private sector companies invest in the development stage to create investment-ready infrastructure opportunities capable of mobilising the necessary debt and equity finance to build and operate them at financial close. Development stage activities are time-consuming, costly and high risk.[6] The project can fail at any time before financial close, notably as a result of actions or inactions of the host government and/or State utility. Private investors may be prepared to accept the high development stage risks if the value of the opportunity at financial close is expected to be high. But in LICs, where many new investments are small scale and high cost, the value of opportunities at financial close is often low.[7] Consequently the return on capital invested in the development stage is typically too low to justify private investors taking the high development stage risks. The result is under-investment in the creation of infrastructure opportunities that would have been fully commercial at financial close had the development stage investment been made.[8]

*Limited appetite from private sector banks and DFIs to lend for infrastructure at financial close in LICs* In the early 2000's most private sector commercial banks and many Development Finance Institutions (DFIs) were deeply reluctant to make medium or long-term dollar-denominated project finance loans to finance infrastructure projects in LICs at financial close. The reluctance stemmed from a combination of the high perceived political and regulatory risks and the unhappy experience of many commercial banks which had lent for infrastructure just prior to the onset of the Asian financial crisis in the late 1990s.

This generic reluctance was reinforced by more specific concerns. Reflecting the very early stage of infrastructure development in these countries, the great majority of lending opportunities were to 'greenfield' investments i.e. investments where all cash flow to repay project debt is generated only when construction is completed, several years after the loans have been made.[9] Greenfield investments are (rightly) viewed by lenders as particularly risky. Generally lenders will only lend if, in addition to a well-structured, viable business case, project sponsors can provide acceptable pre-completion loan support from financial close until projects are built and operating satisfactorily.[10] Unfortunately in many LICs the project sponsors were unable to do so.

As a result there was very little lending for privately-financed infrastructure in the region from commercial banks or DFIs even where the business case showed robust debt service cover on paper. In the mid-2000's sentiment and appetite of commercial banks improved somewhat, but following the onset of the global financial crisis their appetite contracted even further. DFIs markedly increased their lending for infrastructure in these countries in response to the global financial crisis but this is only partially filled the gap left by commercial banks; and much of it was focused on lending in middle-income countries. Consequently throughout the 2000's there was insufficient dollar-denominated lending to (especially greenfield) infrastructure in LICs.

*Very limited availability of local currency-denominated medium term loans for infrastructure* There has been even less availability of local currency-denominated medium and long term debt for infrastructure from commercial banks or DFIs. Most infrastructure investments generate local currency revenues yet have had to borrow in dollars. As a result exchange rate risks typically get passed to infrastructure users via tariff indexation provisions. These provisions expose end-users to the risk of large sudden price increases in the event of currency devaluation; and lenders to risk of default should end-users prove unable or unwilling to pay them (as happened in Indonesia during the Asian financial crisis). In many LICs these risks are unavoidable because domestic financial markets are too under-developed to provide meaningful amounts of local currency finance for infrastructure projects. However there are now some domestic savings markets in some LICs that do have sufficient depth to make it possible to mobilise medium-term local currency loans for infrastructure. However, this market is very 'thin' and lenders are highly risk averse. In the absence of mechanisms to mitigate local lenders' risks there would continue to be insufficient availability of local currency lending for infrastructure investments.

*Affordability of infrastructure services* The weighted average cost of (debt and equity) capital for privately financed infrastructure projects in LICs is about twice as high as for infrastructure investment in OECD countries.[11] The high cost of capital reflects the high perceived project and country risks and limited competition to supply capital for these investments. Since infrastructure is capital intensive and the cost of capital is very high, user charges set to recover the cost of debt and equity capital are also very high. Unfortunately, user charges set to be financeable often prove to be unaffordable for those on lower incomes in LICs.[12] The dilemma was how to 'square the circle' between setting user charges high enough to be financeable and yet low enough to be affordable.

## What is the PIDG?

The PIDG is a multilateral donor-funded organisation whose overriding objective is to help low income countries boost economic growth and reduce poverty by improving access to infrastructure using private sector capital and expertise. The founder donors saw the PIDG as part of their broader approach to make markets work for the benefit of poor people. Donors realised that they and their development banks could not directly finance more than a tiny fraction of the required infrastructure finance. Therefore the idea was that PIDG would use limited amounts of public funds to overcome the constraints deterring private investment so as to catalyse much greater amounts of private sector capital to build and operate infrastructure in these countries. The PIDG facilities were designed specifically to achieve this.

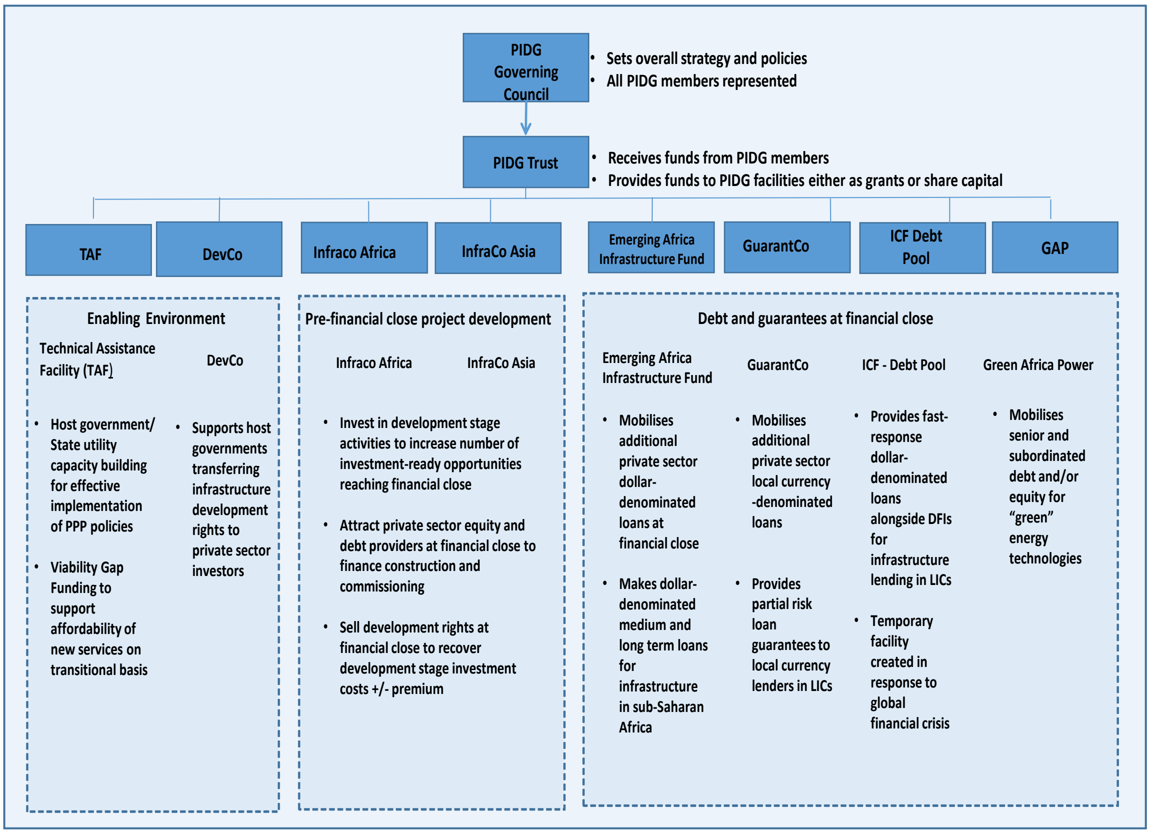
Starting from small beginnings in 2002 with two facilities, four founder members and very limited funding, the PIDG grew rapidly over the next decade to eight PIDG facilities and eight member governments contributing much increased funding.

PIDG has a novel structure. It is a partnership established by contract between member governments who agree to collaborate to achieve a common purpose. Overall governance is set by the Governing Council on which each PIDG member is represented. Below the Governing Council there is a PIDG Trust and eight separate PIDG facilities each of which addresses in different ways the different constraints holding back private infrastructure investment (Figure 2).

The Governing Council has agreed common 'rules of the game' which are set out in Operating Policies and Procedures (OPPs) and a Code of Conduct. These ensure that the behaviours and actions of all involved in the PIDG comply with the values and standards set by its members. The Governing Council determines overall strategy and policies and oversees performance of the PIDG facilities. The Chair's Office provides the executive function of the Governing Council and the Programme Management Unit (PMU) serves as its secretariat and as the principal interlocutor between the Governing Council and its facilities.[13]

The PIDG Trust is a key element of the PIDG architecture. It enables each PIDG member government to provide funding to the sub-set of PIDG facilities that it chooses to support, but subject to common PIDG-wide governance rules. It also provides clear separation between the strategic governance of the PIDG by its members and the corporate governance of individual facilities within the PIDG by their boards. Strategic governance focuses on establishing overall strategy and policies and ensuring the PIDG facilities comply with these policies and deliver the development impact and financial performance sought by PIDG members. Corporate governance focuses on devising and implementing appropriate facility-specific strategies and business plans and on ensuring that managers act in accordance with the rules and deliver the development impact and financial performance agreed with PIDG.

Fig 2 PIDG Structure



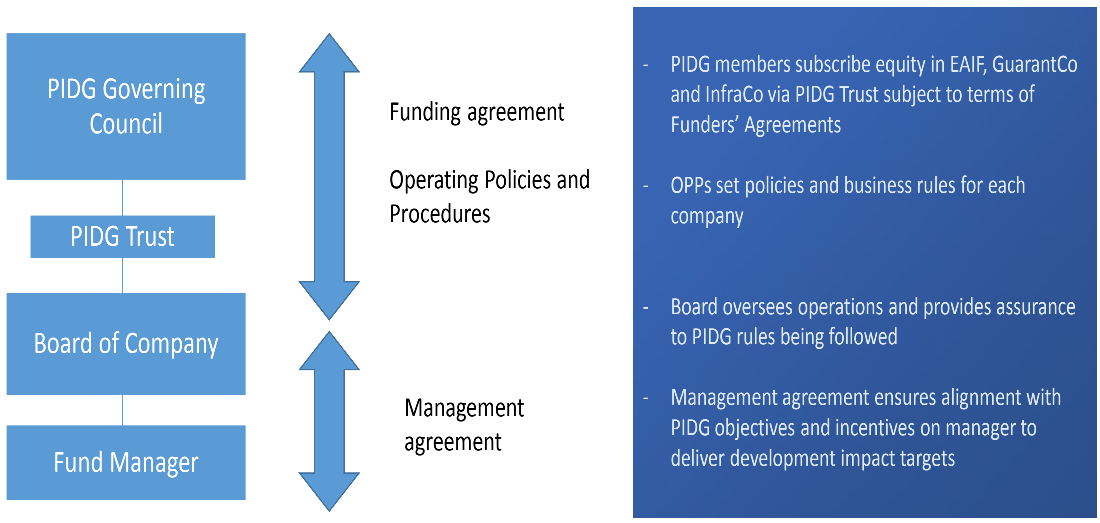

Two of the eight PIDG facilities - the Technical Assistance Facility (TAF) and DevCo - seek to improve host government policy frameworks and/or strengthen their capacity to implement them. TAF supports host governments to strengthen their ability to act as the counterparty in transactions where a PIDG company is involved as developer or funder. It also has a Viability Gap Funding (VGF) 'window', which provides grants to PIDG-supported projects to help make infrastructure user charges more affordable for those on the lowest incomes. DevCo funds transaction-specific advisory services to support host governments proposing to attract private sector developers/investors when a PIDG company is not involved.

The other six PIDG facilities are limited liability companies which are wholly-owned and controlled by the PIDG members.[14] Two of them - *Infraco Africa* and *Infraco Asia* - seek to increase the number of investment-ready opportunities reaching financial close by investing as principals (ie owners) in the development stage of the investment cycle.[15] By reducing entry costs and risks, more investment opportunities offering attractive commercial returns are created, and therefore much more private investment is mobilised, at financial close to build and operate the infrastructure businesses. The InfraCo companies sell their development rights at financial close and proceeds from sales are recycled to invest in the development stage of new infrastructure opportunities.[16]

The other four companies all seek to mobilise additional forex-denominated or local currency debt at financial close. *Emerging Africa Infrastructure Fund (EAIF)* is a public-private debt fund that makes forex-denominated medium and long-term senior and subordinated loans to private sector infrastructure businesses in sub-Saharan Africa. Its innovative capital structure (described later) has enabled it to make loans for infrastructure in these countries in an amount many times greater than the capital invested by PIDG. *GuarantCo* is a novel public-private loan guarantee facility that provides partial risk credit guarantees to support local currency lending to infrastructure businesses in sub-Saharan Africa and parts of South and South East Asia.[17] It seeks to catalyse additional local currency debt by sharing in the risks facing local currency lenders. *ICF-Debt Pool* is a temporary facility established in 2008 to provide fast response forex-denominated debt at financial close for infrastructure businesses in LICs. It was created in recognition of the reduced appetite of commercial banks for infrastructure lending in these countries following the onset of the global financial crisis. It co-finances loans provided to infrastructure investors by DFIs on the same or similar terms. *Green Africa Power* (GAP), a newly created facility, uses concessional funding to bridge the gap between existing utility tariffs and tariffs required by developers of renewable energy to earn adequate returns. Its aim is to help host governments lever-in private sector investment to build and operate low carbon generating (green) technologies.

All six companies share in common a similar corporate structure. Each has a board of Directors made up of experienced private sector individuals with the expertise necessary to make informed business decisions and provide strong oversight of the company's activities. Each has outsourced most of its management and operations to private sector management teams selected for their extensive experience in the relevant product areas (Figure 3). Each operates in accordance with both the PIDG OPPs and facility-specific OPPs, the latter setting out the rules within which each company and its management must operate. Each is required to comply with PIDG Monitoring and Evaluation (M&E) arrangements that require them to agree in advance development impact and financial performance targets and to report actual performance compared to targets on a regular basis.[18]

**Fig 3 Governance and Management Arrangements of PIDG Companies**




Note: InfraCo Africa and InfraCo Asia have the same governance and management arrangements as EAIF and GuarantCo except the company enters into a series of parallel service agreements with several project developer teams rather than a single manager

There are three distinctive features of the PIDG companies: private sector board leadership and management; effective governance at the PIDG and company levels; and financial structures that catalyse private sector investment in amounts many times greater than the PIDG investment.

The appointment of experienced private sector board members has made an important contribution to achieving efficient and effective leadership of the PIDG companies. PIDG members understood that financing infrastructure in these 'difficult' countries required an in-depth understanding of the issues involved. Experienced private sector board members are well placed to oversee the design and execution of interventions that serve the interests of the PIDG members; and to oversee the perfomance of the private sector managers, in particular to ensure that they act to 'crowd-in' rather than 'crowd-out' private investment. The presence on the boards of experienced private sector individuals also gives confidence to private investors that the facilities will operate in an efficient and effective manner which in turn increases their willingness to invest additional capital at the facility and project levels. To ensure that private sector board members also understand and have sympathy with the wider development objectives of PIDG, screening, induction and continuing performance assessment of board members is undertaken.

Equally important is the appointment of experienced private sector professionals to undertake the operations and management of each company. It was not considered feasible to recruit private sector developers and bankers into public sector PIDG companies. Therefore PIDG members decided that the best approach was for the private sector board leadership to take responsibility for outsourcing operations and management to experienced private sector management teams and then to oversee their performance. Medium term contracts were entered into that ensured that the contracted managers were bound into the PIDG and facility-specific OPPs and related governance arrangements and committed to delivery of the agreed strategy and business plan. The contracts aimed at creating alignment between the the managers' interests and the outcomes sought by the PIDG.

Efficient and effective performance of the companies was enhanced by the requirement put on the boards and management teams to use competition in many areas including selection of board members, appointment of management teams, procurement of goods and services and accessing finance.

*Effective governance at the PIDG and company levels*

There is effective strategic governance of the PIDG companies by PIDG members. PIDG owns the companies and hence they have ultimate control over them. PIDG appoints, performance manages and can replace board members. PIDG members set the PIDG and facility-specific OPPs which establish the rules within which boards must operate.[19] PIDG members approve the facilities' strategies and medium term business plans and related M&E performance targets proposed by the boards. Compliance with the OPPs is audited and reported annually by the companies to PIDG. The M&E reports are provided to PIDG quarterly showing how each compaany has performed against its agreed targets. Financial reports are submitted quarterly and timely audited accounts are provided annually. PIDG members can (and do) base decisions about whether to provide additional funding, and if so how much, by reference to the observed performance of each company.

There is also effective corporate governance of the companies by their boards. The private sector board leadership is well placed to consider, approve (or not) and recommend to the PIDG, facility-specific strategies, business plans and budgets. They are also well-placed to overseeperformance of the managers and to consider and approve (or not) specific transactions depending on their judgment about compliance with the OPPs and ability to deliver the development impact and financial performance targets. Board members are also well placed to negotiate, approve and recommend to the PIDG the terms of medium term contracts with their respective management teams aimed at ensuring the objectives set by PIDG are met and that management of the business is efficient and effective.

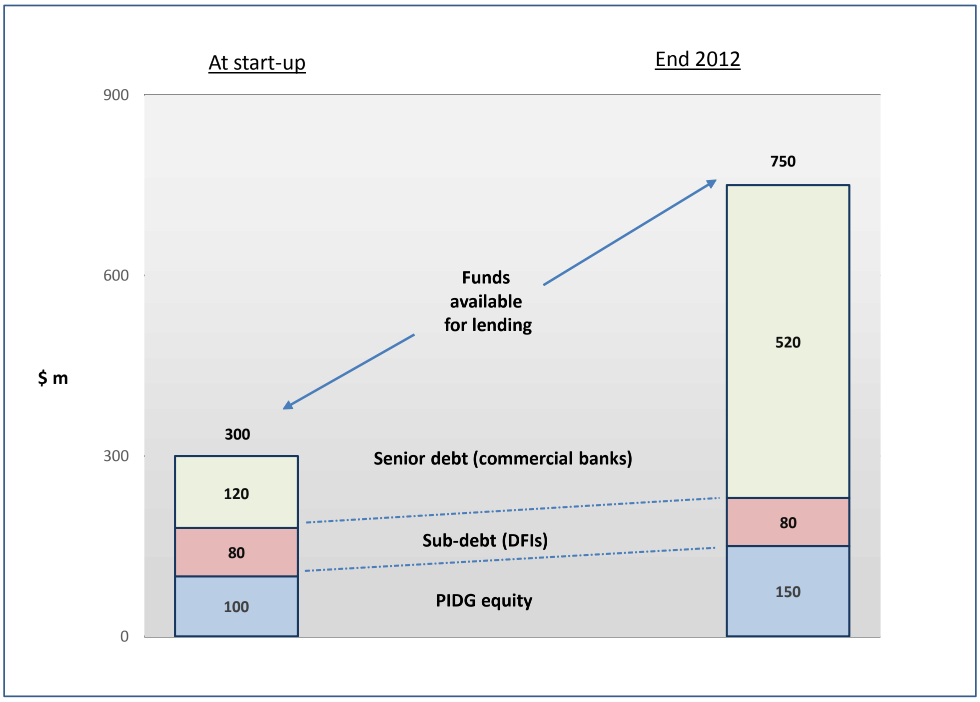
A decade of experience suggests that the governance arrangements have generally worked well. The boards of the companies have balanced appropriately the development objectives of PIDG with the commercial imperatives of private sector-financed infrastructure transactions. For the most part the managers too have shown a commendable ability to target transactions that serve the development objectives of PIDG as well as being financially sustainable. Generally they have achieved a high reputation in infrastructure markets in a short period of time for their effectiveness in sourcing, leading and completing infrastructure transactions. There are notable instances where PIDG companies have led and successfully completed highly innovative transactions such as the Seabank undersea cable offshore East Africa and the Lake Kivu lakebed methane power project in Rwanda.

*Catalysing additional private sector investment*

PIDG members were intent on designing facilities that would use limited amounts of public money to *catalyse* much greater amounts of private capital for infrastructure investment in LICs. Accordingly the PIDG companies have been designed to achieve a high multiple of PIDG's own investment at both facility and project levels.

EAIF achieves this at the facility level via its tiered capital structure. 'Patient' equity is invested by PIDG members, subordinated loans by DFIs and senior loans by (mostly) private sector commercial banks (Figure 4).The PIDG equity is provided on sub-commercial terms - the expected return is well below the return required by private equity investors.[20] The senior and subordinated loans to the fund are provided on commercial terms and 'sit on top of' (rank in priority to) equity cash flows. Lenders to the fund benefit from the equity 'risk cushion' that shields senior and subordinated lenders from losses incurred by the fund on loans made to its borrowers in sub-Saharan Africa. Since senior and subordinated lenders to EAIF face lower risks than they would have faced lending directly to infrastructure businesses in LICs, they are willing to lend larger amounts of capital on cheaper terms to the fund, thereby increasing the capital available for lending by the Fund.

**Fig 4 Tiered Capital Structure of EAIF**



When EAIF was first created it had a conservative capital structure with $100 million of PIDG equity and $200 million of senior and subordinated loans (i.e. financial leverage was 2:1 at the facility level) giving the fund $300 million to on-lend to infrastructure investments in sub-Saharan Africa. The conservative initial capital structure reflected the aversion of commercial banks and DFIs at the time to lend to infrastructure businesses in this region. Over time, as confidence in the professionalism of the board and management team grew and the quality of the portfolio remained sound, it proved possible for EAIF to sharply increase the amount and proportion of private sector and DFI loans to about $600 million (doubling financial leverage to 4:1), thereby increasing the capital available for lending by the Fund to c$750 million.

EAIF also catalyses additional private capital at the project level. In some cases this comes from providing loans that fill a gap in the total debt requirement of a project because other private sector and/or DFI lenders have exhausted their credit limits. In other cases, where EAIF is the lead lender and willing to make a loan itself, its reputation and willingness to lend enables it to persuade other lenders to join, successfully levering-in a multiple of its own loan at the project level.

GuarantCo similarly mobilises additional private capital at the facility and project levels. Established as a start-up in a difficult product area with no track record, a newly-appointed management team, little capital and no credit rating, it initially had to be capitalised entirely with PIDG equity, initiate transactions as a junior co-guarantor of DFI transactions and 100% cash collateralise its guarantees.[21] Although initially an inefficient use of PIDG capital, GuarantCo was able over time to develop a track record and presence in the market, strengthen its creditworthiness (by entering into counter-guarantees with high investment grade DFIs) and consequently was able to put in place credit facilities with private sector commercial banks that enabled it to considerably increase its guarantee capacity without significant increase in PIDG equity. Within a few years guarantee capacity increased to c$500 million and the committed private sector debt:PIDG equity ratio increased to x4.

The two InfraCo companies catalyse private investment in a different way. Their investment in development stage activities is 100% equity funded by PIDG members. Typically they will invest 5 - 10% of the total project cost pre-financial close to create investment-ready opportunities capable of attracting the remaining 90-95% of the required capital from private investors and DFIs at financial close. Therefore when successful they achieve *gross* financial leverage (the ratio of induced private investment at financial close to gross InfraCo investment incurred reaching financial close) in the range x10 – x20 and in some cases higher. When account is taken of sales proceeds received by the InfraCo companies when they sell their development rights to incoming investors, net financial leverage (computed by reducing the gross InfraCo investment to reach financial close by the amount of sales proceeds received at financial close) is much higher than gross leverage.[22] Across each company as a whole, when account is taken of costs incurred developing projects that fail to reach financial close and corporate costs mobilisation of private capital at financial close as a multiple of InfraCo investment is much lower. Nevertheless overall the InfraCo companies expect to mobilise private capital at financial close in the range ten to twenty times greater than the net investment incurred by them.

*Key distinctive Features of the PIDG*

In summary there are five distinctive features of the PIDG:

- Separate PIDG facilities each focused on removing different constraints holding back private investment but all operating within a common governance framework;
- The 'partnership by contract' structure where donors collaborate to achieve a common purpose but where each of them can support those facilities that it wishes to produce;
- Private sector leadership and management of the PIDG companies to enable efficient and effective operations subject to codified PIDG rules;
- Comprehensive, effective governance at the PIDG and facility levels to ensure PIDG rules are complied with and development impact and financial objectives are met; and
- Financial structures designed to catalyse additional private capital for infrastructure in low income countries in amounts very much greater than funding provided by PIDG.

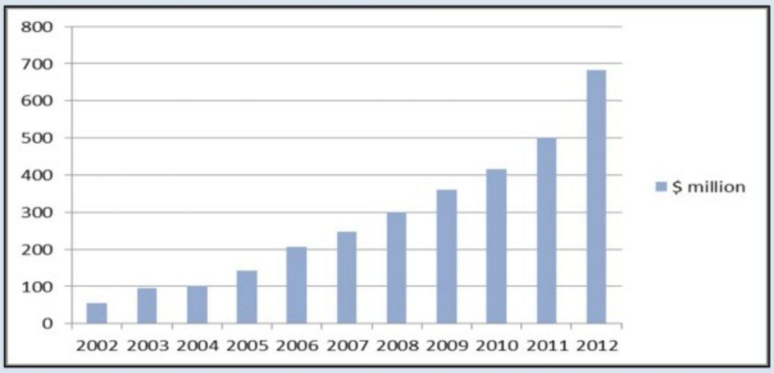
## Has PIDG been a success?

PIDG has achieved *high development impact* as a result of the combination of rules that mandate focus on the lowest income countries and high development impact, the efficient and effective execution of transactions by the PIDG facilities and the high financial leverage that has successfully mobilised much more private sector capital than PIDG could ever consider investing with its own resources.

The beneficial impact of high financial leverage can be observed clearly at the PIDG level. By end-2012 aggregate financial contributions from PIDG members amounted to about \$680 million. Total resources available to PIDG facilities were about three times greater than this as a result of leverage at the facility level. Actual commitments by the facilities at the time were about \$1.42 billion supporting 130 infrastructure businesses in 55 countries. Total private sector and DFI capital invested into infrastructure businesses supported by PIDG facilities exceeded \$26.7 billion, of which more than two thirds was private sector and the balance was from DFIs. Gross financial leverage - measured as total private sector and DFI capital invested as a multiple of total PIDG contributions - is 39 times and gross financial leverage measured as a multiple of private sector capital only is in excess of 25 times (Figure 5).[23] More than 175 million people living in low income countries will benefit from increased access and improved quality of infrastructure services. All of the investments are socially and environmentally as well as financially sustainable. All of the beneficiaries will be in low income countries and almost three quarters will be in the lowest income (DAC I and II) countries.

Fig 5 What has PIDG achieved so far

**7a Financial contributions by PIDG members**




**7b Results as at end-2012**

| | $ million |
|---|---|
| PIDG Contributions | 683 |
| PIDG facility commitments | 1420 |
| Private and DFI investment in PIDG supported businesses | 26700 |
| % commitments in DAC I and II countries | 73% |
| % commitments in 'fragile' states | 45% |
| Financial leverage (1) | x39 |
| Estimated no of beneficiaries of PIDG-supported investments | 176 million |
| PIDG cost to generate benefits (2) | |

Source: PIDG 2012 Annual Report

Notes: 1. Financial leverage is total private and DFI investment in PIDG-supported businesses divided by PIDG

2. PIDG contributions divided by total number of beneficiaries

The PIDG rules mandate *full transparency and clear accountability*. The OPPs require facilities to operate in an open and transparent manner and adopt best practice in such areas as procurement and anti-bribery and corruption. The M&E reports and financial accounts provide transparency about development impact and financial performance. The mandatory compliance and financial audits provide assurance to PIDG that rules are being properly followed and financial performance accurately reported. In addition there are periodic in-depth independent performance reviews of individual PIDG facilities.

The PIDG achieves *very good value for money*. The cost to PIDG members of the additional 175 million beneficiaries is less than $5 per beneficiary. The bulk of the funding provided by PIDG members is investment capital, much of which will retain its full value over time. Should the facilities ever be wound up the terminal value of the capital invested could be recovered and reinvested in other development activities.

If the performance of EAIF, GuarantCo and ICF-Debt Pool (which account for the bulk of the PIDG investment to date) were maintained in the future then the terminal value of PIDG capital invested in those facilities could be close to 100% of the original value. Across all the PIDG facilities, the terminal value of PIDG funds originally provided is estimated to be not less than 75% of the total and could be more than that.[24] Therefore the net consumption of PIDG funds is not expected to be more than 25% of the gross contribution i.e. about $170 million. The contributions of individual PIDG members is much smaller than this.

The apparently complex *PIDG structure is well-conceived*. Different PIDG facilities perform different roles requiring different sorts of expertise on the boards of the companies and in their management teams. Separate companies help ring-fence risks which facilitates mobilising the right amounts and types of private capital into each facility. Creating different facilities with different roles and risk appetite enables PIDG members to choose which facilities to support both initially and over time. This is a flexibility they value and use regularly.

Beyond the direct and indirect impact of the PIDG facilities, there are positive *demonstration effects*. In the early 2000's private sector and DFI lenders were unwilling to provide loans to a first-mover mobile phone company seeking to expand in sub-Saharan Africa. EAIF agreed to do so as the lender of last resort at the time, the investment was very successful spawning a massive increase in private investment in mobile telecoms, subsequently readily supported by private sector lenders. EAIF's success was, first, in supporting an investment that could not be financed at the time; then, as a result of the demonstration effect of the initial transaction, stimulating private sector lending in the telecoms sector; and then by *not* continuing to lend in this sector, thereby avoiding crowding-out private sector lenders.

This was not an isolated instance. The positive demonstration effect of successful EAIF lending in the early years may well have had a positive influence on the willingness of commercial banks and DFIs in the mid-2000's to increase direct lending to infrastructure businesses in these countries. Also, there is clear evidence that once its business model had been successfully demonstrated, the initially unique InfraCo business model has subsequently been adopted and adapted by DFIs and private sector institutions.[25]

Although the 2011 independent review had concluded that the PIDG was a considerable success, nevertheless it was recognised that further strengthening was required in some areas. The PIDG has always been a 'learning organisation' that draws ideas from regular debate between facility boards and PIDG members, seeking ways to further improve its effectiveness and impact. To this end in 2011 a number of new initiatives proposed by the facilities were agreed. For example, EAIF is in the process of creating a subordinated loan 'window' to support higher risk lending; the two InfraCo companies have adopted important changes to their business models aimed at making many more projects investment-ready, more quickly[26]; and Green Africa Power (GAP) has been established to bring focus and momentum to a greater number of renewable energy projects.

In 2011 the PIDG also agreed to implement further strengthening of PIDG governance. Since then measures have been put in place to strengthen the assurance processes and capability of both the PIDG and its facilities.

In 2012 PIDG commissioned a Strategy Review report to inform the members about possible strategic developments over the following decade.[27] The report highlighted the importance of PIDG continuing to invest "at the frontier", meaning that it should seek out the most additional, high development impact opportunities rather than duplicating the activities of others now active in infrastructure in these countries e.g. DFIs. It concluded that greater investment at the frontier would require greater future PIDG funding of equity or quasi-equity instruments to complement existing facility activities.

## The Future of PIDG

During its first decade PIDG created a strong, successful platform for financing infrastructure in low-income countries. The challenge for the future will be to build on those strengths in ways that will generate even greater development impact. The *future strategy* should take account of the significant changes in the financing landscape over the past 10 years. Notable changes include: a marked increase in the appetite of multilateral and bilateral DFIs for senior lending for infrastructure in LICs (a significant change compared to a decade ago); the heavy investment by China in certain types of infrastructure in these countries (and the implications of their very different financing model); the (mostly adverse) response of private sector banks to the financial crisis and the post-crisis banking regulations; and the increased access of many sovereign borrowers in LICs to international bond finance (on historically attractive terms).

The strategy should also take account of lessons learned by PIDG and its facilities over the first decade; and the implications of the substantial additional funding committed to certain facilities in 2011. Do existing PIDG facilities need more funding and if so, how much and by when? Are more radical new initiatives needed and if so, why and in what form?

Three possible new initiatives are sketched out below for discussion.

*Increased PIDG funding for equity and quasi-equity investment at the project level* As the 2012 Strategy Review report had made clear there is a strong case for increasing PIDG funding to support equity and/or quasi-equity investments at the project level at financial close. Currently almost all of the capital invested by PIDG into its financing facilities is used to provide or support lending to private infrastructure businesses. Yet many infrastructure sponsors in these countries - especially those seeking to invest in smaller, greenfield investments – cannot access the whole of the required amount of equity needed to achieve financial close. Private equity funds and DFIs have very limited appetite for these investments and even if they were prepared to invest, the very high cost of equity often renders the infrastructure services unaffordable.[29] As a result there is often an equity funding gap. Even if the equity funding gap were filled some sponsors would not be able to provide senior lenders with adequate pre-completion loan support. Consequently not-infrequently well-structured projects showing high teens equity returns and adequate debt service cover on paper, are not able in practice to mobilise the finance needed to build and operate the infrastructure - so the project never gets built.

Clearly PIDG equity should only be deployed where it would lever-in additional private equity. There would need to be clear investment policies and a sound investment process and evidence in every case of additionality, sustainability and high development impact. Investments should be structured to enable exit post-completion with proceeds then being recycled and re-invested in subsequent equity opportunities at financial close. The risks facing PIDG would be high and therefore could only be justified when a strong case for high development impact could be made. There would need to be strong governance including robust risk management arrangements to ensure that investments are subject to effective scrutiny and oversight before and after they have been made.

If the principle of greater funding to support equity investment were agreed, there are two options for taking it forward – either to create a new facility within PIDG or to build on the existing small-scale equity investment platforms developed by InfraCo Asia and more recently by Infraco Africa.[30] More important than the choice between the options is the decision in principle to adopt this new initiative which has the potential to increase markedly the scale and pace at which PIDG-supported infrastructure gets built, resulting in a major increase in the development impact for beneficiaries in LICs.

*More strategic sourcing of PIDG opportunities* There is also a case for developing a more strategic approach to the identification and execution of privately financed infrastructure opportunities by PIDG. Currently the facilities are largely opportunistic seeking out viable opportunities case by case wherever they can be found. There is relatively little dialogue with host governments about their infrastructure priorities and which of their investments they see as potentially suitable for private investment. Similarly there is limited dialogue with country offices of PIDG members or with international agencies with knowledge of infrastructure opportunities, such as the World Bank. There may be benefits for PIDG from more systematic PIDG-wide engagement with host governments and development partners to identify and execute a greater number of high priority infrastructure opportunities. It would clearly be inappropriate to seek to force facilities to prioritise investments that the boards do not consider appropriate or productive; nor should the facilities disavow opportunism where appropriate. Nevertheless, given the importance of host governments in determining whether, where and when privately-financed infrastructure investments should be supported, greater dialogue is likely to be helpful from a PIDG and PIDG facility perspective.

On the same theme there is an immediate opportunity to benefit from closer partnership between PIDG and the newly-established, African Development Bank-sponsored Africa 50 initiative. Although a separate initiative Africa 50 has much in common with PIDG in terms of its objectives and proposed modus operandi. There may well be mutual benefit in closer collaboration: Africa 50 is closer to host governments in sub-Saharan Africa than PIDG and hence may be better placed to source and progress privately-financed infrastructure investments supported by those governments; on the other hand PIDG has much more experience and can offer many more lessons to help Africa 50 succeed more quickly. A strategic partnership could be forged that would enable both parties to achieve more together than they would have been able to achieve separately.

*Public-private partnerships between PIDG and State-owned utilities* Host governments and their State-owned utilities (SOUs) are the major players owning and operating most of the infrastructure in these countries. The Chinese and the World Bank deploy billions of dollars financing them to build infrastructure. The capital they provide is much cheaper than private sector capital so it is not surprising that host governments and their SOUs prefer to develop core infrastructure assets using cheaper public finance to the extent that funding permits. Their interest in contracting for the output of privately financed infrastructure projects is limited in many cases to supplementing their own infrastructure capacity once publicly-funded sources of finance have been exhausted.[31] There are obvious problems with this approach: the ability of the SOUs to execute efficiently their investment plans often lags far behind their ability to source the available public finance; and privately financed projects often do not contribute fully to development of core infrastructure systems. As a result SOU investments get delayed for lack of expertise that could have been provided by the private sector and PIDG-supported privately financed projects sometimes are not a priority for the SOU and so reaching financial close can be more time consuming and expensive and may fail completely.

A different approach possibly worth pursuing in certain cases would be to undertake a public-private partnership between a State-owned utility and private sector investors to develop and finance core infrastructure assets. A true public private partnership is one where the public and private parties collaborate providing different but complementary contributions to the funding and execution of infrastructure to mutual advantage. The benefit for the SOU is the additional implementation capacity and private finance provided by the private sector partner. The benefit for the private investor is better access to government consents, complementary management and financial investments from the SOU and host government and a lower average cost of capital which in turn will help make infrastructure services more affordable and therefore more acceptable to government and public alike. Unlike a typical supplier-purchaser offtake relationship, with a true PPP there is equitable sharing of costs, risks and returns.

One example of this approach is the Nairobi Commuter Rail project which is a partnership between the government of Kenya, (the publicly-owned) Kenya Railways and InfraCo Africa. The public sector parties provide a combination of permissions, knowledge of the existing railway system and public finance to be channelled via Kenya Railways to fund the rail infrastructure (e.g. track, stations) and the private sector parties will provide private finance, acquisition and installation of rolling stock and sophisticated signalling systems and experienced management. Neither party could finance and execute the entire project on their own but together they hope to generate substantial benefits for users and investors.

Such partnerships clearly raise difficult questions about governance, effectiveness, risk, transparency, procurement and means of mobilising public and private sector capital in parallel for the same venture. But this approach could have real merit in some circumstances as a means of accelerating development of core infrastructure services. Pursuing this option fits comfortably with the idea of PIDG engaging more actively in strategic dialogue with host governments about infrastructure development.

The 2014 NAO report has highlighted the importance of further in-depth consideration of both the strategy and governance arrangements of PIDG going forward prior to any possible further injection of funds from DFID. These proposals should be welcomed as they align well with the PIDG thinking about lessons learned from PIDG experience and understanding the implications of the changes taking place in the external environment.

## Adapting the PIDG approach for other sectors?

The PIDG is an infrastructure development platform that provides like-minded governments with the means to collaborate in the design and funding of a suite of facilities targeted at overcoming multiple constraints on private investment. The structure of PIDG, its governance and management arrangements and the tiered capital structure of the facilities combine to create a platform that delivers high development impact and very good value for money. There is clear potential to adapt the PIDG approach to create similar development platforms in those sectors where the model that underlies the approach also applies.

The sector where a similar approach has most obvious relevance is agriculture/agribusiness. Although there are marked differences between some aspects of agribusiness and "hard" infrastructure, there are also striking similarities. There is a similar lack of investment-ready opportunities and the need for early-stage equity investment using an approach not unlike that of InfraCo.[32] There is a similar lack of credit availability in this case for small and medium-size farming enterprises and smallholders and a corresponding need for guarantee capacity of the sort provided by GuarantCo. There is a need for technical assistance of the sort provided by TAF. And there is a chronic shortage of patient capital at the project level of the sort provided by some of the PIDG facilities in particular to support 'last mile' agricultural infrastructure. An agribusiness development platform that created a series of linked facilities aimed, as with PIDG, at creating leverage of private capital for investment in the highly pro-poor agribusiness sector would be a powerful addition to donors' capability to achieve rapid sustainable and inclusive economic growth.

Although agriculture is the most obvious candidate for a PIDG-type development platform there are other sectors where a similar approach could be created with advantage for donors. Notable among them are development and financing of low cost housing and partnerships with host governments and municipalities of public-private partnerships to develop industrial infrastructure such as industrial estates, port developments and export manufacturing zones.

## Conclusions

The PIDG is an example of successful innovation in development assistance. During its first decade PIDG created a strong, successful platform for financing infrastructure in low-income countries. The challenge for the future will be to build on those strengths in ways that will generate even greater development impact.

The experience of the first 10 years has taught valuable lessons about how the effectiveness and value for money of PIDG can be further enhanced. Even greater effectiveness and development impact would be realised if additional funding was focused on those facilities and new initiatives that can be expected to generate the greatest developmental "bang for the buck".

There is clear potential to adapt the PIDG approach to create similar development platforms in other sectors. Agriculture/agribusiness is the sector where this approach has the most obvious immediate potential.

As donors increasingly focus on the importance of achieving a high rate of inclusive economic growth as a necessary condition for achieving rapid poverty reduction, the PIDG approach offers a powerful means of achieving it, in infrastructure and other relevant sectors.

[1]The author was an adviser to DFID in the creation of the PIDG and EAIF in 2000/2001. He was subsequently appointed as founder Chairman of Emerging Africa Infrastructure Fund (2002-07), founder non-Executive Director of GuarantCo (2003-07) and founder Chairman of both InfraCo Africa (2004-14) and InfraCo Asia (2009-14).

[2] The term “low income countries” in this paper refers to countries classified by OECD as DAC I, II and III countries. The lowest income countries are classified as DAC I and II countries. For country classification see, for example, PIDG Annual Report 2012, annex 1.

[3] Cited in Foster and Briceno-Garmendia, 2010.

[4] Department for International Development (DFID) is the UK government department responsible for development assistance.

[5] For further information about the PIDG and its facilities see www.pidg.org

[6] Typical development stage activities range from acquisition of development rights and seeking support of local communities through completion of social and environmental impact assessments, bankable feasibility studies and negotiation of sales/purchase agreements for the output culminating in securing the necessary debt and equity finance required at financial close. For further description of pre-financial close development activities see www.infraco.com

[7] Small scale typically equates to high cost in part because of the absence of technical economies of scale and in part because of the high front-end fixed costs associated with achieving financial close.

[8] Investors entering a project at financial close avoid the costs and risks of the development stage and therefore benefit from higher incremental returns and lower incremental risks. Consequently investments that would have been unattractive at the start of the development stage can offer attractive commercial returns at financial close.

[9] ‘Greenfield’ investments are completely or largely stand-alone ventures with little or no cash flow from existing assets until projects are complete and in operation. ‘Brownfield’ investments are expansion investments of existing businesses which have current positive net cash flow and net assets that can be pledged to lenders.

[10] Pre-completion loan support may be in the form of loan guarantees or comparable credit support such as committed stand-by equity until a satisfactory completion test is met.

[11] The weighted average cost of capital (WACC) of regulated utilities in Europe is about 5% real (i.e. inflation-adjusted) whereas the WACC of greenfield infrastructure in LICs is typically >10% real.

[12] In OECD countries energy poverty is considered to be when more than 10% of a household’s income has to be spent on minimum purchases of energy. The concept of affordability of utility services in LICs draws on the same thought but since costs of supply tend to be much higher and incomes much lower than in OECD countries affordability is a much greater problem.

[13] The Chair’s Office consists of three representatives of PIDG member governments plus the Special Counsellor and a small number of senior advisers from the private sector. It is authorised to take certain decisions between Council meetings.

[14] The PIDG company shares are held by the PIDG Trust on behalf of the PIDG members who in effect have full control over the PIDG companies.

[15] The two InfraCo companies operate the same business model, InfraCo Africa in sub-Saharan Africa and InfraCo Asia in the poorer countries of South and South East Asia. Here the term InfraCo refers to both companies.

[16] In limited circumstances InfraCo may retain a carried equity interest and/or invest new equity at financial close.

[17] GuarantCo may guarantee loans in a larger number of countries than EAIF because very few of the lowest income countries have the capacity to make local currency loans for infrastructure whereas a number of DAC III countries have an emerging capacity to do so. Unlike EAIF GuarantCo may in certain circumstances support loans to municipal governments for infrastructure investment.

[18] There is a series of measures of development impact metrics focused on inputs (e.g. how many investments have been made and how much has been invested), outputs (e.g. how much private sector capital has been mobilised) and outcomes (e.g. how many people have benefited from improved access and quality of infrastructure services).

[19] Strictly speaking the facility-specific OPPs and M&E targets are set by the sub-set of PIDG members who are providing funding to that facility.

[20] Patient capital is even more concessional in that the PIDG has agreed that there will be no distribution of dividends from EAIF so all profits can be retained in the fund to support the business.

[21] A guarantee facility cannot operate successfully unless its guarantees are acceptable in the marketplace, and generally this requires the guarantor to have a high investment grade credit rating which in turn requires strong capitalisation and a solid performance track record. Initially GuarantCo had neither of these. Hence it was necessary to cash collateralise guarantees.

[22] Gross financial leverage is the ratio of private investment mobilised at financial close divided by the gross investment incurred by InfraCo bringing it to financial close, so if $5m were invested to reach financial close and the investment at financial close was $100 m then gross financial leverage is x0. Net financial leverage is the ratio of private investment mobilised at financial close divided by InfraCo’s gross investment reduced by proceeds of sale at financial close, so if $3m of the $5m gross development cost is raised at financial close the net financial leverage is x50.

[23] Only a proportion of the capital more recently committed by PIDG has yet been fully deployed so the total available and committed amounts of capital are less than they will be when the capital is fully deployed.

[24] Terminal value is the value of the capital initially invested if at some future date these facilities were closed down and the assets sold. Estimates of the terminal value of capital invested in the facilities depend on judgments about future performance and are uncertain. Estimates here are based on historic performance over the first ten years.

[25] Since InfraCo was created in 2004 alternative versions of a similar approach have been created e.g. by IFC with Infra Ventures, by an African-owned and based private investment company in partnership with a European DFI and more recently by the African Development Bank (Africa 50).

[26] They include use of multiple developer teams working in parallel (rather than relying on a single developer team); co-developing infrastructure opportunities undertaken by private sector developers; and in certain circumstances investing at financial close in partnership with private equity investors.

[27] See 2012 PIDG Strategy Review.

[28] the term quasi-equity refers to investments whose risk characteristics are like equity but which may be structured as some form of subordinated debt instrument.

[29] See the 2012 Strategy Review report p.45 and Exhibit 24 which shows of 125 infrastructure funds in non-OECD countries only 5 are eligible for infrastructure in sub-Saharan Africa and only 3 transactions in total were “greenfield” investments.

[30] InfraCo Asia has established a small equity investment vehicle (InfraCo Asia Investments) to make financial close investments in equity and quasi-equity in projects being developed by InfraCo Asia in limited circumstances.

[31] Most of the contractual arrangements between State-owned utilities and private investors are not true public-private partnerships. Rather they are supplier-buyer relationships which by their nature are adversarial, where one party’s gain is the other party’s loss.

[32] See www.agdevco.com and Palmer,2010.

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