

Annual Report 2015



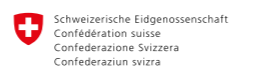
Infrastructure
transforming economies
changing lives

Front cover: **Cape Verde** Cabeólica wind farm, Santiago, following the 2015 rainy season
TAF and InfraCo Africa supported the development of the Cabeólica wind power project
Read more about Cabeólica on p54
Photo by kind permission of Cabeólica



PIDG 2015

PIDG is a multi-donor organisation with Members from seven countries and the World Bank Group



Swiss Confederation
Federal Department of Economic Affairs,
Education and Research EAER
State Secretariat for Economic Affairs SECO



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Note: Dollars are US dollars throughout (other currencies are indicated) and all figures are as at 31 December 2015.

About PIDG

PIDG encourages and mobilises private investment in infrastructure in the frontier markets of sub-Saharan Africa and south and south-east Asia, to help promote economic development and combat poverty.

PIDG makes it viable for private investors to participate in infrastructure deals using limited sums from its publicly-funded Trust to crowd-in many times that value in private capital.

PIDG was an early proponent of 'blended finance', encouraging public and private interests to work jointly to create development impact.






Since 2002, PIDG has supported 133 infrastructure projects to financial close, of which 56 are fully operational.

The \$1.2bn committed by PIDG Members to the PIDG Facilities since 2002 has leveraged almost \$20bn in private sector investment and almost \$9bn from other IFIs and DFIs.

This Annual Report outlines PIDG's development impact activities in the financial year January 2015 to December 2015.

PIDG's aim now is to scale up its activities. It has set ambitious targets to increase access to infrastructure in the countries where it works. For this reason this Report also looks forward, explaining PIDG's intent and approach for 2016 and beyond.

PIDG in numbers

2015		2002–2015
<p>23 projects reached financial close</p> <p>11 in fragile and conflict-affected countries</p>		<p>133 projects reached financial close*</p> <p>67 in fragile and conflict-affected countries</p>
<p>\$1.9bn mobilised from private sector investors and development finance institutions</p>		<p>\$29.1bn mobilised from private sector investors and development finance institutions</p>
<p>5,040,478 people with access to new or improved infrastructure</p>		<p>264,509,490 people with access to new or improved infrastructure</p>
<p>10,606 long-term jobs created</p> <p>4,822 short-term jobs created</p>		<p>223,685 long-term jobs created</p> <p>111,367 short-term jobs created</p>
<p>4 projects became commercially operational</p>		<p>56 projects are commercially operational**</p>

* 152 projects gross
 ** 58 projects gross

All values given for development impact and development result indicators are expected/predicted numbers, which are first recognised when a project reaches financial close. These are in contrast to the figures provided for operational projects which are the final ("actual") amounts based on PIDG's post-completion monitoring (PCM) process. Please also note that PIDG commitments (pp10-11) are recognised at the point of commitment, which is considerably earlier than financial close for the technical assistance (TAF and DevCo) and the early-stage development (InfraCo Africa and InfraCo Asia) Facilities.

PIDG in pictures

These photographs of our work with Kalangala Infrastructure Services (KIS) on Bugala Island in Uganda's Lake Victoria, supported at various stages by TAF, InfraCo Africa, EAIF and GuarantCo, show how PIDG-funded infrastructure helps promote economic development impact and combat poverty. See further photographs showing the impact of our work throughout this Annual Report.

How we do it

KIS is a pioneering mixed utility company.

2,832 solar panels generate affordable, clean power for the residents of Bugala Island.

KIS also operates two modern roll-on roll-off ferries; purifies and distributes clean water; and has upgraded the island's 66km main road.



Why we do it

Kalwanyi Yahaya runs a barbers shop on Bugala Island.

Before KIS he spent \$110 per month on diesel generators.

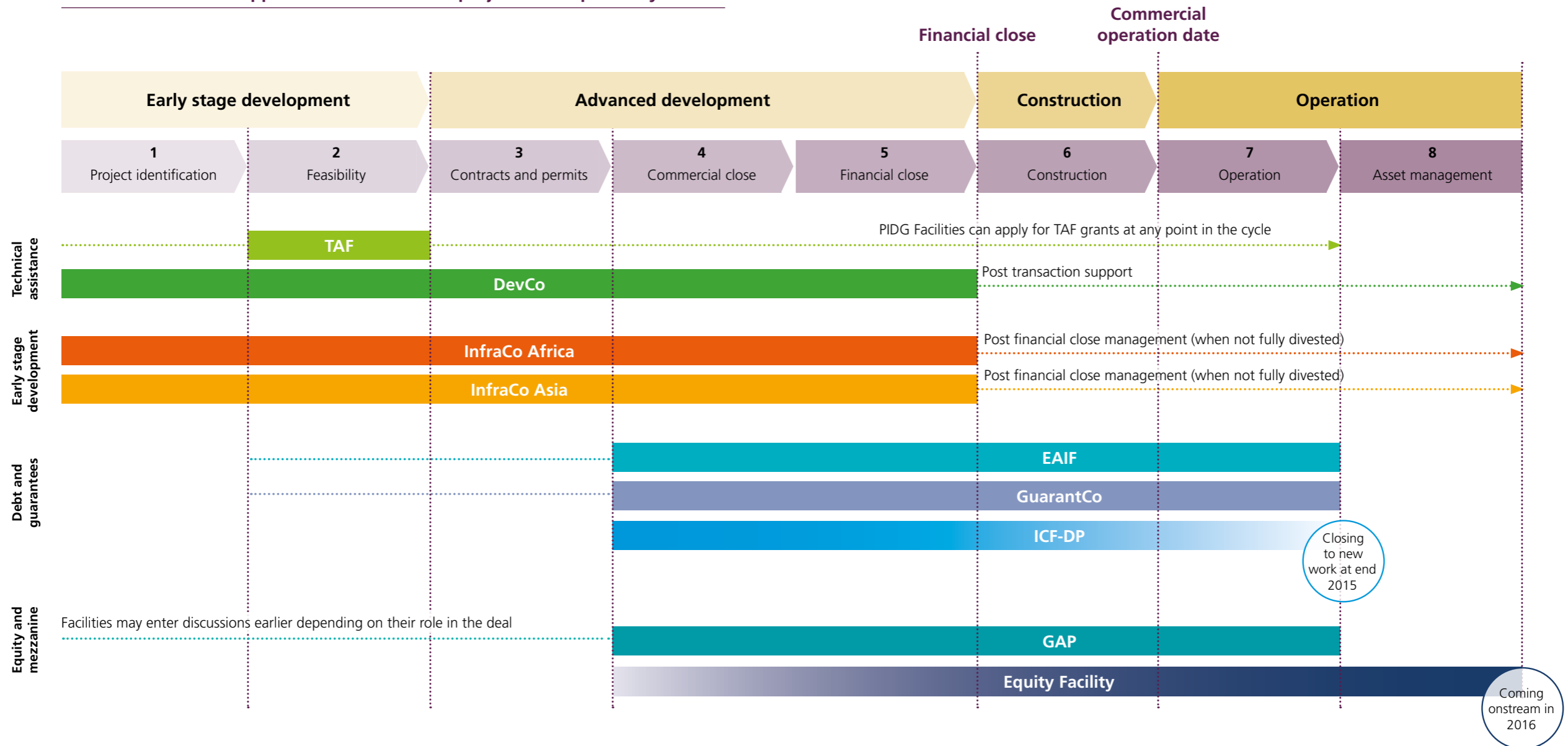
Now, connected to the KIS grid, he spends \$11 on power and is saving the rest to expand his business.



How PIDG Facilities support the infrastructure project development cycle

PIDG supports private investment throughout the project development cycle from its earliest stages, as the graphic below shows.

How PIDG Facilities support the infrastructure project development cycle



“PIDG is not aid in its traditional form. Instead, it is a departure that is exciting and different, with some of the characteristics of a disruptive innovation.”

Lisa Scenna, Deputy Chair, PIDG Supervisory Board



PIDG MEMBERS

Switzerland Reflecting on 2015



Switzerland chaired PIDG's Governing Council and Supervisory Board in 2015, through the Government of Switzerland's State Secretariat for Economic Affairs (SECO)

It is not only that in the world's poorest and most fragile countries sustainable economic development is held back by a lack of infrastructure. More than this, in Switzerland we believe that sound basic infrastructure is a vitally important means of creating jobs and changing people's lives for the better.

Modern power plants and power distribution networks; good transport and communications links; clean, piped water – all these are desperately needed in the countries where PIDG works. Of the newly-agreed Sustainable Development Goals, let us recall that SDG 9 is explicit on building resilient infrastructure; SDG 7 on modern energy and SDG 11 on sustainable cities – all related to infrastructure. And the achievements of many other SDGs critically depend on good infrastructure.

It is PIDG's task to help bridge the billion dollar 'infrastructure gap', working with private sector partners.

Switzerland has been a PIDG Member from the start in 2003, helping mobilise private sector investment in infrastructure in the countries where PIDG works.

We are very proud that, since 2003, our contribution, together with that of PIDG's other donor Members, has helped launch 115 infrastructure projects, with more than 50 of these now fully operational. The impact has been substantial – we estimate that more than 250 million people have benefited through improved access to infrastructure, with more than 300,000 permanent and temporary jobs created in the process.

In 2015 Switzerland chaired PIDG's Governing Council and Supervisory Board, comprising representatives of all its Members, from seven countries and the World Bank Group.

For Switzerland, chairing in 2015 was a welcome opportunity to take a turn and assume responsibility for steering PIDG's priorities and progress

For Switzerland, this was a welcome opportunity to take a turn and assume responsibility for steering PIDG's priorities and progress. As a small donor we believe that we can leverage our contribution through the PIDG multi-donor approach.

We co-designed and oversaw further major improvements in PIDG's governance and reporting and launched a strengthened central support team to help Facilities deliver on their obligations and to facilitate work among them as 'one PIDG'. With these reforms firmly in place, PIDG will further enhance its impact and also be ready, as Members have wished it to be, to do more in the future.

We believe it is important for PIDG to stay ahead – developing new and innovative products, solutions and partnerships as other global development finance institutions move into infrastructure. Being active along the whole infrastructure value chain, PIDG is uniquely positioned to do so.

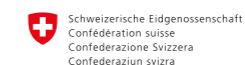
It was an honour for Switzerland to assume the challenging but fulfilling role as PIDG Chair. We are now looking forward to working with the new Chair for 2016, Australia, and other PIDG Members to help create the business growth and jobs impact that infrastructure investment can supply.

Ivo Germann

Head of Operations

Economic Cooperation and Development Division

State Secretariat for Economic Affairs



Swiss Confederation

Federal Department of Economic Affairs,
Education and Research EAER
State Secretariat for Economic Affairs SECO

Australia Looking ahead into 2016



Australia will chair PIDG's Governing Council and Supervisory Board in 2016 through the Government of Australia's Department for Foreign Affairs and Trade (DFAT)

The Australian Government is pleased to be PIDG's 2016 Chair and thanks the previous Chair, Switzerland, for its efforts in 2015. Switzerland was instrumental in consolidating PIDG governance frameworks and strengthening PIDG central management. We look forward to building upon these achievements in 2016.

As 2016 Chair, Australia will ensure PIDG maintains and enhances its focus on sustainable growth through infrastructure development, including by continuing to insist on comprehensive gender equality outcomes and by progressing efforts to understand and measure the lasting development impacts of PIDG.

We will also ensure that the organisation's mandate remains well-aligned with the United Nations' *Sustainable Development Goals*. SDG 9 outlines sustainable infrastructure as a key outcome in and of itself and underpins the successful achievement of many of the other Sustainable Development Goals. Filling the infrastructure financing gap in developing countries, estimated at between \$1trn-1.5trn every year, will need major investments from both the private and public sector. PIDG has a critical role to play in leveraging the much larger sums of private sector finance needed to begin addressing the infrastructure finance gap.

PIDG is well-aligned with Australia's development, trade and investment priorities. It is helping us and our donor shareholder partners to make our aid dollars go further. The organisation's ability to leverage public funding to attract the private capital necessary to bring accessible, high quality infrastructure to developing countries and emerging markets is

PIDG's ability to leverage public funding to attract the private capital necessary to bring accessible, high quality infrastructure to developing countries and emerging markets is innovative and in many ways unique

innovative and in many ways unique. It is testament to a well-designed model that combines commercial and development imperatives to facilitate sustainable economic outcomes targeted to where they are most needed.

Australia is committed to seeing PIDG grow from a \$1bn organisation in 2014 to a \$3bn organisation by 2025, a goal that will require us to diversify the organisation's donor base and to work tirelessly with our PIDG partners to advocate the organisation's credentials as an agile enabler of infrastructure development and sustainable economic growth.

Rebecca Bryant

Assistant Secretary

Economic Engagement, Resources and Energy Branch















Department of Foreign Affairs and Trade



Australian Government
Department of Foreign Affairs and Trade

PIDG Member and other donor funding

Member and other donor funding disbursed to PIDG – yearly (\$m)

			2002-2013	2014	2015	Cum. total
	ADA-BMF	Joined 2007, exited 2014	15.9	-0.5	-0.1	15.3
	ADB¹		1.0	0.0	-0.7	0.3
	AECID²		0.3	0.0	0.0	0.3
	DFAT	Joined 2012	9.7	5.2	5.0	19.9
	DFID-DECC	Joined 2002	662.8	140.9	28.4	832.1
	DGIS	Joined 2002	73.6	0.8	0.6	75.0
	FMO³	Joined 2002	34.0	0.0	0.0	34.0
	World Bank-IFC	Joined 2004	22.3	0.3	0.4	23.0
	Irish Aid	Joined 2008, exited 2015	5.7	0.0	0.0	5.7
	KfW	Joined 2009	10.0	0.0	0.0	10.0
	MFA	Joined 2014	0.0	16.7	0.4	17.1
	Norad⁴		0.5	0.0	0.0	0.5
	SECO	Joined 2002	76.5	16.6	8.0	101.1
	Sida	Joined 2002	41.1	-0.1	0.7	41.7
	TOTAL		953.4	179.9	42.8	1,176.0

- 1 For TAF only (not a PIDG Member).
- 2 For general administration only (not a PIDG Member).
- 3 For GuarantCo only (not a PIDG Member).
- 4 For GAP feasibility and design only (not a PIDG Member).

PIDG's donors can make bespoke investments in one or more of PIDG's Facilities to best suit their development objectives

Member funding disbursed to PIDG by Facility – cumulative (\$m)

Disbursed (USD\$m)	DFID	DGIS	FMO	Sida	WB-IFC	SECO	DFAT	KfW	MFA	ADA-BMF	Irish Aid	Norad	Other*	Total
TAF	18.7	3.5	-	0.2	7.9	9.0	-	-	-	0.4	4.1	-	0.3	44.0
DevCo	53.5	5.5	-	3.3	11.7	-	-	-	-	7.0	-	-	-	81.0
InfraCo Africa Development	76.2	35.5	-	-	-	23.5	-	-	-	6.4	-	-	-	141.6
InfraCo Asia Development	58.2	-	-	-	-	10.0	19.1	-	-	-	-	-	-	87.3
InfraCo Asia Investments	26.9	-	-	-	-	-	-	-	-	-	-	-	-	26.9
EAIF	322.9	27.0	-	20.0	-	20.0	-	-	-	-	-	-	-	389.9
GuarantCo	196.9	0.0	34.0	15.0	-	35.0	-	-	-	-	-	-	-	280.9
ICF Debt Pool	-	-	-	-	-	-	-	7.8	-	-	-	-	-	7.8
GAP	3.5	-	-	-	-	-	-	-	16.7	-	-	-	-	20.2
AgDevCo	67.0	-	-	-	-	-	-	-	-	-	-	-	-	67.0
Project development	2.6	0.1	-	0.1	0.3	0.3	-	-	-	-	-	0.5	-	4.0
Total less admin	826.4	71.6	34.0	38.6	19.9	97.8	19.1	7.8	16.7	13.8	4.1	0.5	0.3	1,150.6
General administration	5.7	3.4	0.0	3.1	3.0	3.3	0.9	2.2	0.4	1.4	1.6	0.0	0.3	25.5
Totals	832.1	75.0	34.0	41.7	23.0	101.1	19.9	10.0	17.1	15.3	5.7	0.5	0.6	1,176.0

Note: Other* includes ADB and AECID.

Cumulative disbursements by Members to PIDG, 2002-2015 **\$1.2bn**

PIDG commitments by infrastructure sector

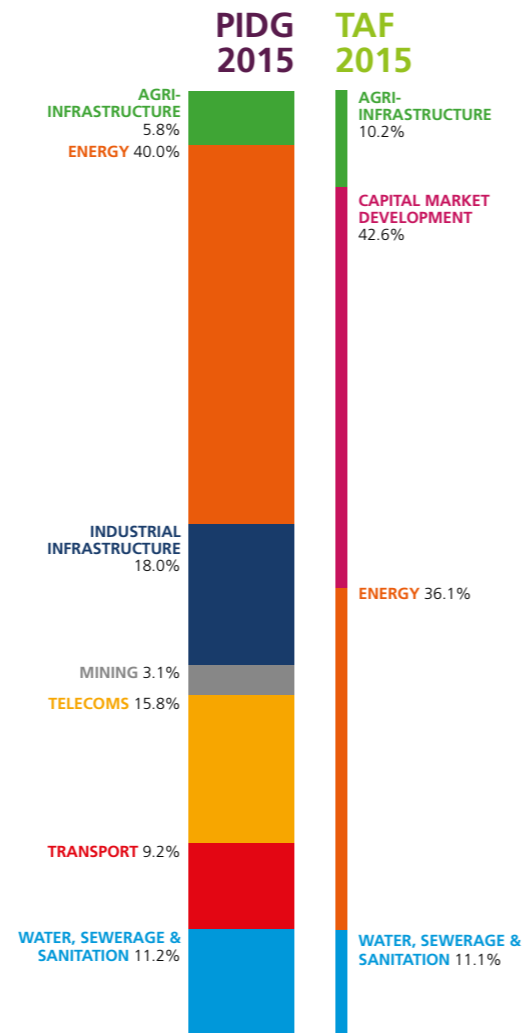
PIDG operates across a range of infrastructure sectors, although energy generation, telecoms, transport and industrial infrastructure account for 87% of overall commitments. This year 19 projects were in the energy sector – spread evenly between early-stage project development, debt finance, and capacity-building and advisory Facilities.

PIDG commitments (excluding TAF) by sector – 2015 (\$m)

	PIDG commitments
Agri-infrastructure	17.40
Energy	119.71
Industrial infrastructure	45.00
Mining	9.20
Telecoms	47.20
Transport	27.55
Water, sewerage and sanitation	33.50
31 projects	299.56

TAF commitments by sector – 2015 (\$m)

	TAF commitments
Agri-infrastructure	0.215
Capital market development	0.9
Energy	0.763
Water, sewerage and sanitation	0.235
9 projects	2.11



In 2015 PIDG committed \$300m to 31 new projects

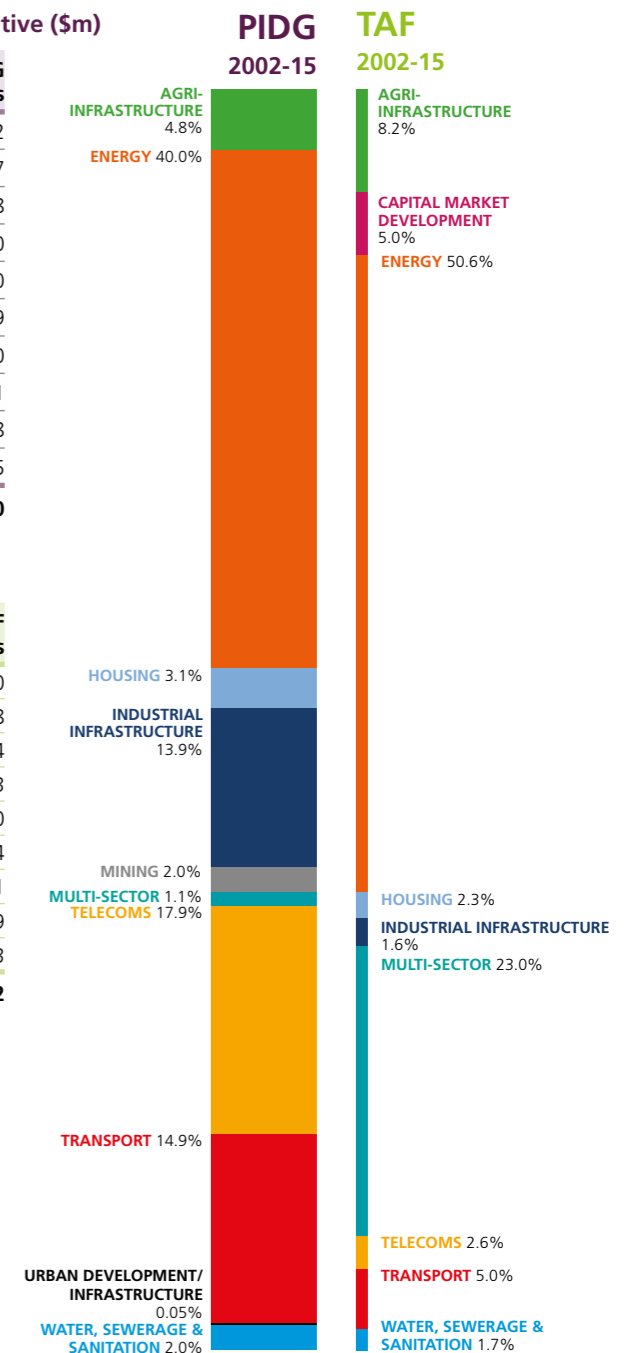
PIDG commitments (excluding TAF) by sector – cumulative (\$m)

	PIDG commitments
Agri-infrastructure	110.22
Energy	913.37
Housing	70.48
Industrial infrastructure	318.10
Mining	46.20
Multi-sector	25.69
Telecoms	408.80
Transport	340.11
Urban development / infrastructure	1.08
Water, sewerage and sanitation	46.65
197 projects*	2,280.70

TAF commitments by sector – cumulative (\$m)

	TAF commitments
Agri-infrastructure	2.60
Capital market development	1.58
Energy	15.94
Housing	0.73
Industrial infrastructure	0.50
Multi-sector	7.24
Telecoms	0.81
Transport	1.59
Water, sewerage and sanitation	0.53
102 projects	31.52

* This number represents the number of commitments made by PIDG Facilities to projects and where different Facilities have made commitments to the same project counts them separately.



Since it was established in 2002, PIDG has committed \$2.3bn to 197 projects

Explaining PIDG's public-private approach

Business leader
Lisa Scenna
is Deputy
Chair of PIDG's
Supervisory
Board

Increasing basic access to roads and motor transportation, clean water and electricity is really important in the countries where PIDG works. In its simplest form, if you can't get yourself to work or transport your goods to market because a road is poor or transport is inadequate then your only option is to try to make a living locally. It means your choices and opportunities are restricted.

The PIDG approach corrects for this. It pulls in private investors, encouraging them to finance infrastructure in lower-income countries, where they have generally been reluctant to go – the investment 'frontier'.

PIDG is not aid in its traditional form. Instead, it is a departure that is exciting and different, with some of the characteristics of a disruptive innovation.

During 2015, PIDG underwent a transformational change.

From an internal perspective this meant strengthening management depth within the Facilities, Boards and PIDG's central team.

From a business perspective existing operations were expanded, and capacity in upstream project origination was increased, with a new patient capital facility approved for launch by Members and further investment in TAF and DevCo approved.

Collaborative working between PIDG Facilities has hugely advanced.

Our Members gave phenomenal support to these changes and capacity improvements, a great reflection of their commitment to PIDG.

While PIDG Facilities deeply understand the markets in which they operate and their market coverage is very good, in 2016 and beyond PIDG needs to improve its transaction flows, taking greater numbers of transformational projects forward.

As the market evolves, so PIDG's approach is evolving to follow the whole project lifecycle, from project identification to commercial operation.

With additional resources and capacity coming in 2016 and beyond through its new patient capital facility, PIDG will be able to support the private sector in the management of operational assets, once construction is complete.

I would like to see global awareness of PIDG grow. It is unique in its work with the private sector, its agility and its ability to adapt.

The real test of PIDG's success will be when it is able to exit countries leaving a legacy of functioning, affordable, private sector-run infrastructure that has helped bring jobs and greater prosperity.

Governance, leadership and management changes in 2015

In 2015 there
were important
changes to the
way PIDG is
governed, led
and managed

2015's governance, leadership and management changes reflect that, from small beginnings, PIDG has become a sizeable organisation, ambitious to achieve greater development impact via future growth.

Governance Supervisory Board

A Supervisory Board replaced the former Chair's Office.

During 2015 Switzerland took the role of Chair. For 2016 Australia will chair.

The role of Deputy Chair is an external appointment – a business leader with private sector infrastructure finance experience, currently Lisa Scenna.

The Supervisory Board also has two Special Advisors. These roles are currently fulfilled by John Hodges and Keith Palmer, with recruitment of their replacements to be undertaken in 2016.

Leadership CEO

In autumn 2015 Philippe Valahu took up the new post of CEO, reporting directly to the Supervisory Board and overseeing the work of the Central Management Office. The CEO is responsible for PIDG's strategy and external relationships.

The new CEO post is retained directly by the PIDG Trust. Replacing the previous lesser role of Executive Director, the strengthened leadership role has full oversight of activities PIDG-wide.

Administration Central Management Office

Members approved an increase in the resource for PIDG's Central Management Office, previously known as the Programme Management Unit. The extra resource – in finance, operations, strategy, compliance and risk management, results and impact monitoring, and communications – means that the CMO can support more work in some areas and new work in others.

“There are a considerable number of existing and evolving gaps in the infrastructure financing market which constrain the part that the private sector can play. These gaps show the continued relevance and need for the products that PIDG offers.”

Philippe Valahu, CEO, PIDG



PIDG CEO

CEO Filling market gaps to create development impact

Philippe Valahu
is PIDG's CEO

The lack of infrastructure, whether it is access to power, clean water or roads, continues to be a significant issue in the countries in which PIDG operates. It impacts on people's daily lives and represents a major constraint to doing business in those regions. While the primary responsibility for funding these needs may lie with governments, the latter are limited significantly by capacity constraints and budget limitations. In practice there is substantial under-investment and limited ability to increase provision of basic infrastructure services. The private sector must therefore play a major role in contributing to meeting the finance gap.

In 2015, our PIDG Facilities closed 23 deals on projects across our target countries in sub-Saharan Africa and south and south-east Asia, 11 of these in fragile and conflict-affected states, mobilising \$1.9bn from private sector investors and the development finance institutions.

Internal to PIDG, achievements in 2015 have laid the ground for a scale-up of our activities in 2016 and beyond. Governance improvements – debated and agreed through 2014 – have now been fully implemented, including the appointment of a new Supervisory Board, the appointment of a CEO and the increase in resources for PIDG's central management team.

These improvements have been coupled with a strengthening of internal operations in risk management and compliance, robust financial reporting, and increased capacity in communications which will help our outreach. Our increased impact monitoring will help us better measure our development outcomes.

With this new architecture in place, we will be in a position to help drive greater customary collaboration between our PIDG Facilities – within the organisation we call this our 'One PIDG' approach – to help us deliver greater development impact. Our small size means we can react quickly – often much more quickly than larger development finance organisations – offering

Our small size means we can react quickly – often much more quickly than larger development finance organisations

infrastructure financing solutions that make the difference between a commercially-viable project going ahead or not. Working with PIDG Members and host country governments, we keep a close watch on the opportunities and challenges faced in the countries where we work.

The Global Infrastructure Forum held in April 2016 in Washington, DC and attended by PIDG had the aim of improving and enhancing coordination among the multilateral development banks and their development partners – all in attendance together for the first time – in order to better support the creation of sustainable, accessible, resilient, quality infrastructure in emerging markets.

Some of the key action points coming out of that forum go to the heart of PIDG's mission: blending public and private roles in infrastructure management and finance; meeting the infrastructure needs of countries in special situations (2016 focus: lower-income and fragile and conflict-affected countries); and mobilising private finance for infrastructure from capital markets.

There continue to be a considerable number of existing and evolving gaps in the infrastructure financing market which constrain the part that the private sector is able to play. These gaps demonstrate the continued relevance and need for the products that PIDG offers. They also demonstrate the further potential that PIDG has to close additional gaps in increasingly challenging market conditions, including volatility in some markets due to a decline in oil prices and weakening commodities prices.

Our 2015 work to start to address these gaps included increasing our focus upstream, via our technical assistance funds TAF and DevCo and our two early stage development facilities InfraCo Africa and InfraCo Asia, recognising that a shortfall of investible deals is preventing private investors' participation in projects in our markets in practice, even when they are interested in investing in principle.

At the same time there is a clear need for a means of investing equity or patient capital to bridge the gap between financial close and commercial operation, through the costly

A new PIDG equity facility is expected to come onstream in 2016

construction phase of an infrastructure project. A new PIDG equity facility is expected to come onstream in 2016.

While we have traditionally financed larger-scale energy infrastructure projects – typically full-sized power stations feeding a national or regional grid – and will continue to do so, we have in 2015 begun to explore off-grid energy solutions. InfraCo Africa’s pilot with solar container business Redavia in Tanzania through 2016 is an exciting development, which we will monitor for replicability.

One of the key messages from the Global Infrastructure Forum is the need for various initiatives to be joined up in order to avoid duplication and ensure that scarce resources are used with most effect. Going forwards PIDG is looking to work much more closely with strategic partners such as PPIAF, GPOBA and GIF to improve our deal pipeline.

When I next report, in 12 months time, on progress during 2016, I would like to be able to more clearly evidence PIDG’s development impact, as well as highlight how PIDG is sharing its accumulated 14 years of learning on infrastructure development finance.

All of us in PIDG know we have a development model that works. We must now show exactly how, for the benefit of all.

Together with PIDG Members, our Facility Chairs and other stakeholders, I am ambitious to make this happen.



Philippe Valahu

Chief Executive Officer
Private Infrastructure Development Group



Explaining One PIDG

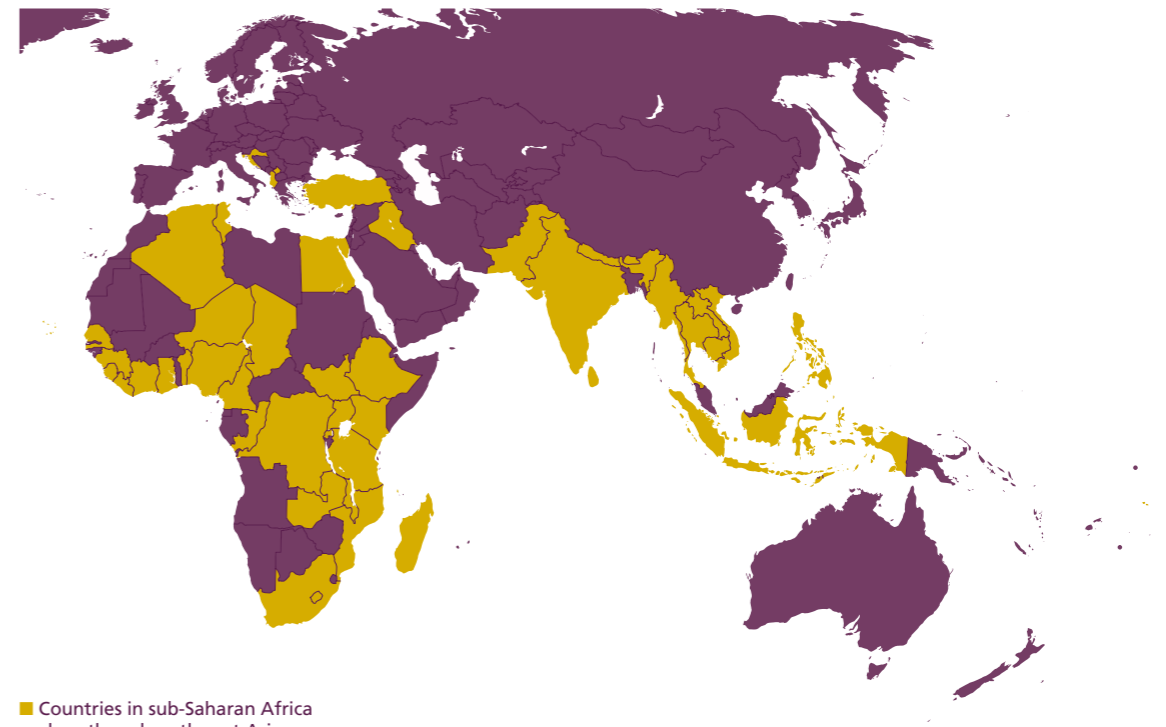
Encouraging greater collaboration between Facilities

PIDG has a unique structure that meets specific market needs, with Facilities working at every stage of the infrastructure project development cycle to support the delivery of transactions.

In the past, Facilities worked relatively separately much of the time, engaging with each other when opportunities arose. However, as PIDG has grown Facilities have increasingly found value in more systematic collaboration.

Our newly-adopted ‘One PIDG’ approach formalises and embeds collaborative working between Facilities.

This new approach includes inter-Facility, PIDG Member and DFI knowledge-sharing; developing PIDG-wide country, regional and sector strategies that also link with and support Members’ wider development goals; co-locating Facilities to provide a regional presence (in 2015 GuarantCo opened a small office in Nairobi with InfraCo Africa to co-locate with them there in 2016); and accepting proposals centrally, where appropriate, and encouraging Facilities to work on these together.



■ Countries in sub-Saharan Africa and south and south-east Asia where PIDG has active projects

Analysing infrastructure financing trends in 2015

Business journalist **Amber Plum** surveys investor and lender appetite in PIDG's markets

How far have the market extremities of 2015 served to undermine the availability of opportunities in infrastructure finance? In the face of uncertainty, market behaviour has shifted markedly in the year – but behind the funding shortfalls are specific trends to which participants have responded in varying ways.

One common theme has been that of severe adversity. Falling commodity prices have sunk government revenues in Africa and south Asia, putting pressure on foreign exchange reserves and external debt burdens, which have often soared. The higher Basel III bar set to global bank capital and liquidity requirements has reduced the appetite for risk among banks, while the developed world's ultra-low interest rate environment squeezed operational resources. Meanwhile, capital exchange risk spiked as local valuations fell against the US dollar, currency crises were called, and capital flight surged. According to the Institute of International Finance, emerging markets saw their first new cash outflow since 1988 as capital funds of \$450bn retreated.

The ramifications included increased doubt over the viability of some transactions, lower funding capacity among project host governments, a lack of market participants and reduced funding from global banks.

But there were, simultaneously, several more subtle shifts in the market's psychology. Geographical distinction has blurred in the perception of potential funders as the African exuberance of the early 2000s ran aground. Where once, in the spotlight of financial market optimism, market singularities were a spur to global investor enthusiasm, the retreat of infrastructure funding towards more highly developed markets has in 2015 seen frontier markets abandoned by former supporters.

Political anxieties, meanwhile, have created distractions at home. Among donor countries, Europe's refugee crisis – to which OECD members allocated \$12bn of assistance in 2015 – has diverted aid spending elsewhere, with traditionally large donors including Norway and Sweden obliged to cut infrastructure development funding. Others may follow suit.

Among a number of recipient countries, inflationary pressures on local currencies and lower government spending capacity have sparked new measures of political instability in the year. In Nigeria, where oil revenues were estimated at 53% of the national total by consultants PwC, fuel subsidies and food price inflation have become acute political pressure points. Meanwhile, annual capital expenditure was set 43% lower than in 2014, and was outstripped in net terms by debt servicing worth 26% of aggregate federal revenue.

Nonetheless, the infrastructure finance market's reality check has not been without progressive side effects. While the need for patient capital – often on a 15- to 18-year timescale, or longer – has always been a defining characteristic of infrastructure funding, 2015 brought increased investor recognition of the issue.

Meanwhile, some measure of 'naïve' financial market capacity – prominent in any bull market – has continued to be whittled down by the year's precipitous climate. What remains is a market where prominent funds are still competing to lead the big deals – but where interested entities may not have the luxury of choosing from a large number of available projects.

This highlights a specific Catch-22 situation: while credit enhancement is urgently needed, it remains dependent on the flow of bankable, stable deals. Increased focus and activity has been seen through 2015 in this area, building on the improvements of 2014. But there remains much to be done.

These adverse market conditions have increased the need, more than ever before, for infrastructure investment activity to be intelligently targeted. Opportunities to work more closely with host governments in order to encourage deal flow, particularly in advisory capacities at project conception and early 'greenfield' development, have therefore been spotlighted.

Simultaneously, amid the damage wrought by fallen commodity prices, renewables projects have come to the fore, the move towards them driven by a slide in relative costs. Kenya and Ethiopia have seen particular success, with Kenya completing multiple geothermal transactions in the year and Ethiopia receiving growing investor interest due to its rich natural resource base and ambitious target for zero carbon emissions by 2025.

In other PIDG target countries, including Vietnam, the market opportunity for renewables has helped to drive enhanced regulation. And in many, battery storage has become an increasingly significant area of investor focus, as technological developments coincide with decreasing costs to create viable opportunities.

As always, markets are on the move – and past performance is no guarantee of future returns. But the sheer range of potential infrastructure projects in other low and middle income countries means that a broad-brush picture of the market may disguise specific circumstances calling out for investment. The capacity of investors to take advantage of these opportunities will depend on their ability to see opportunity in adversity.

“Through careful monitoring of results, PIDG can learn what works well to deliver development impact, and can feed that back into the selection and design of new projects.”

Alice Chapple

Head of Monitoring and Evaluation, PIDG Central Management Office



PIDG DEVELOPMENT RESULTS

Reporting our development results

PIDG’s goal is to enable the development of reliable infrastructure in locations that are currently underserved, to bring about inclusive growth and pro-poor development

Infrastructure is critical to development. Energy, water supplies and mobility fundamentally affect the quality of people’s lives, as well as their opportunities to work or trade. The goal of PIDG’s activities is to enable the development of reliable infrastructure in locations that are currently underserved, to bring about inclusive growth and pro-poor development.

All PIDG-supported projects are designed to deliver significant social and economic development impact. PIDG projects are concentrated in low and lower-middle income countries and fragile and conflict-affected states. Thus PIDG has a distinct role among international finance institutions (IFIs) and development finance institutions (DFIs) in that it focuses on private sector development in frontier markets which carry a higher risk for investment.

In order to assess our success in playing that role, we need to try to understand the impacts that our activities have made on people in the countries where we operate. We also need to gather more specific data to help us monitor important steps towards achieving that impact. For example, how much domestic and foreign commercial investment have we been able to catalyse alongside us on projects? What value has PIDG added to a particular transaction in terms of risk-sharing, project design or technical expertise? Have we been able to demonstrate the commercial viability of a project to private sector players, so that they then have the confidence to step in? The answers to all of these questions are

important to enable us to assess whether we are generating development impact, and how we might enhance it further.

The Key Development Result Indicators table below sets out the indicators collected by all Facilities and recorded in the results monitoring system. Each Facility has targets for many of these indicators and each reports on achievement against the targets as part of its quarterly reporting. The internal database has a public face, **data.pidg.org**, where Members and the public can access the results data.

Recording these development results provides key evidence for assessing:

- the contribution of PIDG to private sector development in low and middle income countries;
- social and economic impact; and
- the effectiveness, efficiency and economy of the PIDG approach (value for money).

It is not straightforward to collect and verify data in all of these areas. However, we look for practical and resource-efficient ways to do so, because we want to learn lessons on what works, we want to be able to monitor the impact we have achieved, and we need to report to our Members who are accountable for the public funds they invest in PIDG Facilities. In the following sections, we explain a little more about each of the areas we monitor, why it is important and what are the challenges of measurement.

Key development result indicators

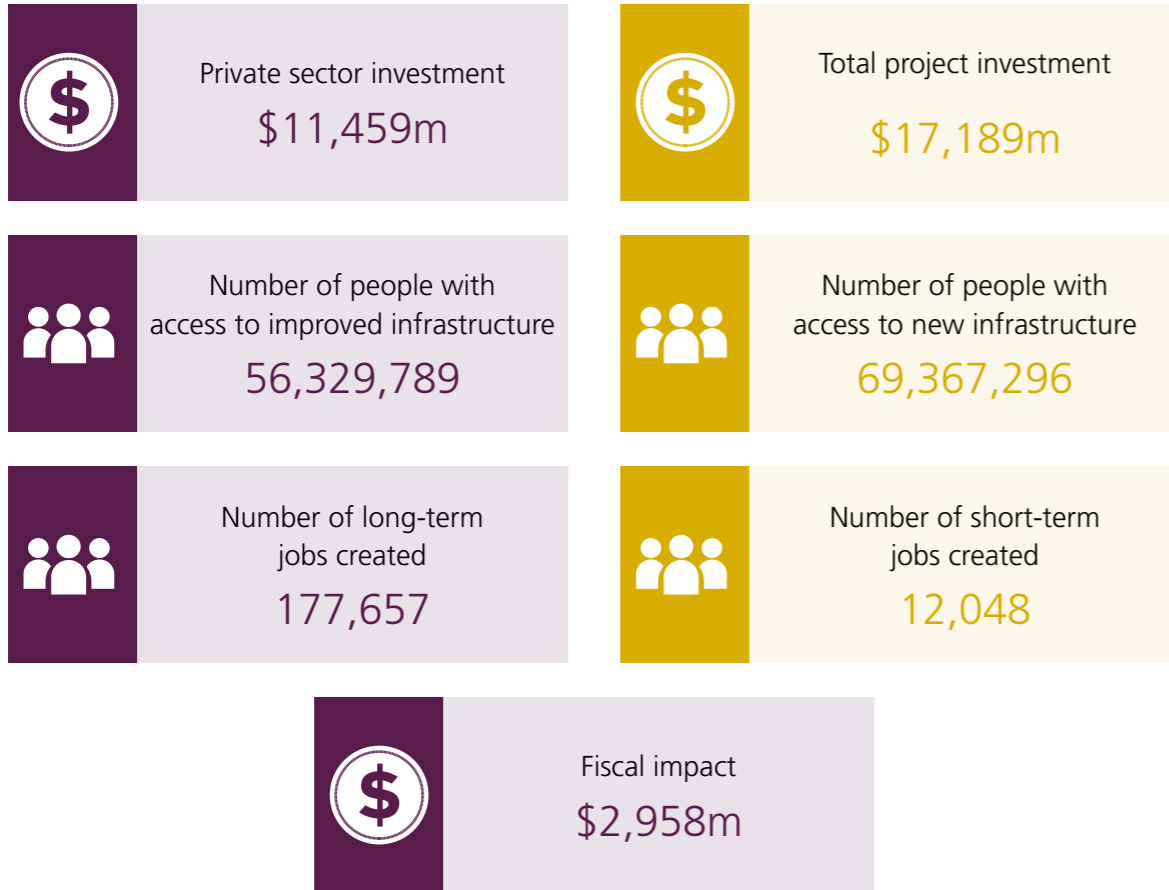
Development result indicator	Main features
Total project investment leverage	<ul style="list-style-type: none"> • Investments from commercial entities: <ul style="list-style-type: none"> - domestic commercial finance (equity and/or debt) - foreign commercial finance (equity and/or debt) • Investment from DFIs: <ul style="list-style-type: none"> - DFI finance (equity and/or debt)
Additionality	<ul style="list-style-type: none"> • Strategic role of the Facility in securing a deal – this includes financial additionality, i.e. the requirement that PIDG only funds when others would not provide that funding • Better design and efficiency • Improved regulatory and policy environment
Demonstrating the viability and benefits of private infrastructure projects to host government, potential investors and users	<ul style="list-style-type: none"> • Capital mobilisation through greater private participation in infrastructure either in a country, sector or region • Improved attitudes and greater willingness to invest in the private sector in emerging markets
Number of people benefiting from the infrastructure (access)	<ul style="list-style-type: none"> • Number of people expected to have access to new infrastructure • Number of people expected to have access to improved infrastructure
Job creation	<ul style="list-style-type: none"> • Direct short-term jobs created during construction • Direct long-term jobs created during operations
Fiscal benefit to host governments	<ul style="list-style-type: none"> • Fees and taxes paid to the host government and subsidies from the host government avoided



“Before they brought these clean water taps we had many diseases, diarrhoea, bilharzia and typhoid.”

Nassolo Winnie
Nurse
Bugala Island
Kalangala Infrastructure Services (KIS),
Uganda
InfraCo Africa, TAF, EAI, GuarantCo

PIDG's actual achievements on operational projects 2002-2015



Explaining development impact

PIDG's objective is to improve the lives of people in developing countries. Sometimes its day to day activities, which include structuring deals, designing projects, negotiating with governments and rating risk, may feel remote from those people. But these are all an important part of creating and enhancing development impact. Through careful monitoring of results, PIDG can learn what works well to deliver development impact, and can feed that back into the selection and design of new projects. In this way, PIDG and the individual Facilities and projects supported by it can enable capital to flow to the infrastructure that can transform people's lives.

"The first thing you learn about this kind of project is that it is able to bring rapid development.

"With the private sector involved, we have the funding to make the power, road, water and ferry happen at the same time. It's never been done.

"But there are also local contractors and businesses involved, which reassures the community. This means a lot.

"In the next 10 years, I see this island being a focal point.

"I think the government would like to replicate what KIS has been able to do in other parts of Uganda. This is probably the most successful way of developing these areas of the country."

John Opiro
 Managing Director
 Kalangala Infrastructure Services (KIS)
 Bugala Island, Uganda
 InfraCo Africa, TAF, EAIF, GuarantCo



"We have had problems with power for quite a long time. But our President has prioritised infrastructure so we can work for better lives and improve our country. In that regard, we are proud of our partnership with Kivu Watt, which is giving us power."

Jacob Tumwine
 Managing Director, Moriah Hill Resort
 KivuWatt, Rwanda
 EAIF

Mobilising private sector investment

Overall, for every dollar of PIDG Member contributions channelled to projects, \$25 is expected to be mobilised from non-PIDG sources, \$17 of which will be from private commercial financing

The more that PIDG can mobilise private sector funding alongside its own funding, the further its own funding will stretch and the greater the impact it will have. PIDG Facilities leverage Member funding at the Facility and project levels with private sector investment from local, regional and international sources and capital from DFIs.

This leverage ratio is critical to assessing whether PIDG is achieving its mission to mobilise private sector participation for infrastructure development in lower-income countries (see tables opposite). At the end of 2015, every dollar of PIDG Member contributions is expected to raise \$17 of private local and foreign commercial financing (excluding DFI investments).

At the PIDG Facility level, equity injected by PIDG Members enables the financing Facilities to raise additional financing from the private sector and DFIs. These organisations look to PIDG Members' equity to mitigate risk. The increased funding means Facilities can support both a higher number of projects and projects that are larger in scale. EAIF and GuarantCo have built portfolios in recent years beyond the equity contributions of the PIDG Members, despite some of the most challenging market conditions.

All Facilities report mobilisation of investment from both the DFIs and the private sector investors in their results monitoring sheets. Before 2015, the Facilities were assessed against a target for the total project investment mobilised. However, in 2015, EAIF and GuarantCo introduced a target for private sector investment, providing a clearer indication of where the Facilities have catalysed pure private sector funding as opposed to finance from other private sector-oriented DFIs which are funded by the public sector.

At the project level, PIDG support for a project encourages co-financing or follow-on financing from external sources, alongside the PIDG Facility. By taking on the up-front risk, Facilities reduce overall risk to a sufficient level for the private sector to invest – typically at financial close or shortly afterwards.

Due to the limited availability of private sector financing to close infrastructure projects in developing countries, PIDG projects are often co-financed by other DFIs. Overall, for every dollar of PIDG Member contributions channelled to projects, \$25 is expected to be mobilised from non-PIDG sources.



“It’s not a question of giving the people handouts, it’s about developing a project that is in the people’s minds, then the people themselves will be able to sustain it.”

Jospeh Mushalika
Chairman, Chayanaya Smallholders Cooperative Society
Chanyanya, Zambia
InfraCo Africa

Total investment commitments mobilised by PIDG activities by sector (\$m)

	Total investment commitments	Private sector investment	DFI investments
Agri-infrastructure	677	388	289
Energy	11,320	6,788	4,185
Housing	568	563	5
Industrial infrastructure	2,613	1,633	980
Mining	655	347	308
Multi-sector	256	128	129
Telecoms	8,253	6,564	1,689
Transport	4,297	3,133	1,164
Urban development / infrastructure	5	5	-
Water, sewerage and sanitation	490	412	78
Total	29,134	19,960	8,828

Note: There is one DevCo project with expected financing of \$346m, where the investment breakdown is not available.

% of total investment commitment in fragile and conflict affected states by sector

Agri-infrastructure	95%
Energy	41%
Industrial infrastructure	83%
Multi-sector	12%
Telecoms	64%
Transport	34%
Water, sewerage and sanitation	0.1%

% of total investment commitment in least developed and lower income countries by sector

Agri-infrastructure	85%
Energy	35%
Housing	39%
Industrial infrastructure	45%
Mining	100%
Multi-sector	100%
Telecoms	72%
Transport	72%
Urban development / infrastructure	100%
Water, sewerage and sanitation	12%

Additionality

For PIDG, inputs and services have to complement what other institutions are willing to put in place; thus we 'crowd-in' rather than substitute private investment

Where the public sector is providing funding to commercial activities, it is important to identify the reasons why the market is unable to play this role. This ensures that the rationale for using public money is properly tested, requiring the publicly-financed organisation to define its 'additionality'. In PIDG's case, the inputs and services have to complement – and not substitute – what other institutions can or are willing to put in place in order to provide infrastructure services.

Until 2015, there was a single definition of additionality for all Facilities. In 2015, PIDG worked collaboratively with other development finance institutions to try to define the concept. There was no clear consensus but PIDG built on the learning from this exercise and each Facility

developed a specific set of definitions and grading of different levels of additionality which were relevant to its business. These were incorporated into the investment policies or equivalent of each Facility, to ensure that all of PIDG continues to operate at the frontier. From 2016, the Facilities have established targets for their additionality.

The type of additionality highlighted by each of the Facilities varies according to the stage of investment but includes the mobilisation of finance, financial structuring (including a blending of public and private finance), project design, new or better standards, improved law or regulations and enhancing or ensuring positive social and environmental impact.

Demonstration effect

Our aim is to develop proof of concept projects that demonstrate the viability of investing in pioneering initiatives and higher risk environments, to the wider market

PIDG cannot, by itself, solve the infrastructure deficit in low and middle-income countries or post-conflict and fragile states. Our aim is to develop proof of concept projects that demonstrate the viability of investing in pioneering initiatives and higher-risk environments, to the wider market. Over the long term, we want to ensure that the lessons learned in one project make it easier for the next to achieve a successful closing. Demonstration effects can also include convincing governments of the benefits of private sector investment to deliver infrastructure developments. Although in some

sectors or countries a single project is enough, we have learned that to create a situation where private sector investors are attracted without our activities requires a critical mass of particular types of infrastructure projects in a particular country.

PIDG has several examples across its portfolio of where its activities have had a demonstration effect, and have therefore enabled greater impact. EAIF has demonstrated the commercial viability of investing in telecoms in Africa; GuarantCo provides local currency guarantees to local lenders to avoid exchange rate risks and to stimulate local capital

sources; and InfraCo Africa has a new strategy of establishing pilot projects on the ground quickly, to test the concept and demonstrate viability, thus enabling replication by the private sector, and obtaining greater support from country governments.

Measuring the demonstration effect is a challenge because it is sometimes hard to identify exactly how and whether a successful business model has been replicated, or how PIDG's activities have specifically influenced attitudes to investment in infrastructure.

PIDG's experience has shown that additionality and demonstration effect are often maximised at different stages of the development of a particular

sector of infrastructure in a country. In the early stages of a sector's development our work is clearly additional, but it may be harder to attract private sector investors. However, as more projects in the same sector are achieved, the demonstration effect increases, and it becomes easier to attract investors. This, in turn, means that additionality becomes less easy to ensure, and more focused on specific aspects of projects. Once the market is self-sustaining and additionality is no longer achievable, PIDG will stop working in that particular sector and geography and seek new challenges. It is for this reason that we are constantly looking to identify gaps in the market and consider innovative ways in which they might be bridged.

Uganda IFC and DevCo's Busembatia project delivers clean, piped water to Busembatia

In Uganda, 90% of people live in rural areas, two-thirds of whom lack access to a regular supply of clean water. In Busembatia, residents walked long distances to collect heavy, often highly polluted water from boreholes and swamps. Time lost carrying water or suffering from waterborne disease had a profound impact on Busembatia's economy, particularly impacting the lives of women and the education of children. The Government of Uganda engaged private operators in an effort to decentralise the water supply, but contracts were weak and a critical lack of local finance meant that they had no capacity to expand their service. IFC and DevCo worked to engage local banks and water operators, promoting the bankability of small-scale water infrastructure PPPs. Local operator Trandint Ltd won a five-year management contract, securing a \$100,000 loan from a local bank – the first of its kind. Trandint now operates over 700 distribution stations delivering a constant supply of clean, piped water to over 55,000 people in and around Busembatia.



"Chickens are very delicate. They need clean water, or you will lose them all. It is the secret behind my business."

Janet Nangobi Suda
Farmer
Busembatia, Uganda
DevCo

Access to infrastructure

This year four projects became operational, reaching an estimated additional 7.4 million people

Ultimately, the principal objective of PIDG's funding support is to increase people's access to energy, water or opportunities for mobility and trade. Therefore it is very important for PIDG to understand, as far as possible, how many people gain access to new or improved infrastructure as a result of its activities. PIDG collects data on expected access before a deal is closed; access after a deal is closed; and once a project becomes operational. As more projects become operational so the number of people benefiting from new or improved infrastructure increases. This year four projects became operational, reaching an additional 7.4 million people.

There is a challenge in that reliable access estimates are not always available, in particular for energy generation projects. In the absence of these PIDG, like other international finance institutions, uses 'conversion methodologies' as agreed by the Development Finance Institutional Harmonisation Group in 2013. It is particularly difficult to estimate beneficiary numbers for energy generation projects, and the conversion

methodology provides only an estimate of the number of people that could benefit. There are some types of projects for which determining beneficiary estimates is not practical at either project level, or through the use of conversion methodologies, and these include ports, roads and manufacturing projects.

Access figures are disaggregated by gender. In the absence of project level disaggregated data, PIDG uses the high level Female Beneficiary Estimation Tool to estimate the number of women that could benefit from a project.¹

These estimates provide an indication of the numbers of people who have gained new or improved access to infrastructure. Although detailed testing of the conversion methodologies and validating the proxy numbers for access to services on every project in PIDG's portfolio would not provide value for money, it will be important to generate additional evidence and test assumptions through case studies and 'deep dives'.

"Imagine a midwife delivering a baby having to put their phone in their mouth to access light from the flash."

Dr Batuusa Florence

Director of Health Centre IV
Bugala Island, Uganda
Kalangala Infrastructure Services (KIS)
InfraCo Africa, TAF, EAI, GuarantCo



¹ This tool was developed in 2012 by the IFC/World Bank and PIDG.

Predicted access, by sector, for all PIDG Facilities

	Predicted access (cumulative)
Agri-infrastructure	360,201
Energy	125,800,392
Housing	58,500
Industrial infrastructure	16,790,423
Mining	27,500
Multi-sector	35,000
Telecoms	106,428,837
Transport	12,771,481
Urban development / infrastructure	167,547
Water, sewerage and sanitation	2,069,609
Total	264,509,490

Operational projects: actual access in post-completion monitoring

	Actual access (cumulative) excl. DevCo*	DevCo	Total
Agri-infrastructure	51,033	6,660	57,693
Energy	23,036,976	3,434,894	26,471,870
Industrial infrastructure	15,258,000	-	15,258,000
Mining	27,500	-	27,500
Telecoms	66,283,201	13,374,000	79,657,201
Transport	3,981,821	243,000	4,224,821
Total	108,638,531	17,058,554	125,697,085

* Until 2015, the DevCo actual impacts were reported separately from other PIDG Facilities.

When projects reach full commercial operation the sponsoring Facility carries out a post-completion review in which it obtains the final figures for the project. These are compared to the original predictions, which helps us assess the general accuracy and robustness of our estimation methodologies.

Operational projects development impact indicators: predicted vs actual

	Predicted	Actual
Total project investment	15,107	17,189
Private sector investment	10,861	11,459
Number of people with access to new infrastructure	98,413,903	69,367,296
Number of people with access to improved infrastructure	28,480,481	56,329,789
Fiscal impact (\$m)	3,078	2,958
Short-term jobs created	10,948	12,048
Long-term jobs created	173,360	177,657

Job creation

Employment is a key factor in alleviating poverty in the developing world. As well as directly creating jobs, both short-term and long-term, building infrastructure helps develop a wider job market

Jobs are at the heart of eradicating poverty. The private sector plays a key role in economic growth and poverty reduction in developing countries, providing an estimated nine out of 10 employment opportunities, according to the World Bank². The impact of PIDG’s activities on employment extends beyond the jobs created by the construction and operation of the infrastructure. There are indirect jobs, which are those created within the supply and distribution chain, as well as induced jobs – which are those resulting from direct and indirect employees spending more money. Most significantly for PIDG, there are the jobs which result from the removal of an obstacle to growth, such as power provision, often referred to as secondary effects.

At present, PIDG’s results monitoring system captures information on direct job creation by gender. For example, by 31 December 2015, the 133 PIDG-supported projects that have reached financial close are expected to create 223,685 direct long-term jobs. But this is only a fraction of the story: a job creation impact study of the EAIF supported Bugoye hydropower plant in Uganda³

showed that for every direct job in the plant, eight to 10 jobs were supported in the economy.

In the IFC’s study of jobs, *Assessing Private Sector Contributions to Job Creation and Poverty Reduction*, 28 IFIs have pledged to work together as the Let’s Work global partnership (coordinated by IFC) to address the issue of job creation and learn from each others’ experiences. PIDG became an officially recognised partner of Let’s Work and a member of its Steering Group during 2014 and is the only member with a sole focus on infrastructure.

PIDG is identifying suitable projects as case studies that will enable Let’s Work to develop tools and methodologies for assessing the impacts of infrastructure on jobs. The studies will be undertaken by IFC-commissioned teams of researchers. In order to generate robust data on impact, the teams’ first task will be to investigate the nature and types of jobs available before a project starts. This will enable changes to be monitored and attributed to the PIDG project where appropriate.

² World Bank World Development Report 2013 on jobs.

³ *Job Creation Impact Study: Bugoye Hydropower Plant, Uganda*, ODI, June 2013 (available at www.pidg.org).

Projected cumulative employment generated by PIDG projects

	Long-term employment	Short-term employment
Agri-infrastructure	7,888	4,345
Energy	4,993	19,821
Housing	70	60,500
Industrial infrastructure	4,570	7,810
Mining	1,425	1,000
Multi-sector	1,060	175
Telecoms	-9,119	13,578
Transport	211,401	3,450
Urban development / infrastructure	20	20
Water, sewerage and sanitation	1,377	668
Total	223,685	111,367



Jamil Mbaziir is a motorbike mechanic. Noticing that the upgraded road meant more traffic, he set-up his own business providing spare parts and repairs to the, now frequent, motorbike taxis.

Bugala Island, Uganda
Kalangala Infrastructure Services (KIS)
InfraCo Africa, TAF, EAIF, GuarantCo

“A lot of people depend on our factory. We have about 435 employees, so if we close, these people will suffer. This is why we need electricity.”

Theogene Mutangana
Production Manager, Karongi Tea Factory
KivuWatt, Rwanda
EAIF



Fiscal impact

Through supporting economic activity, PIDG also contributes to local and national governments through fees and taxes. It calculates the fiscal impact generated by PIDG-supported projects as upfront fees to governments as well as payments in the form of corporate taxes and consumption and sales taxes. In cumulative terms in 2015, PIDG projects are expected to generate \$6.8bn in fiscal benefit of which \$3.51bn comes from upfront fees paid to governments.

This figure is not directly comparable with the numbers reported for fiscal contribution before last year. This is because, in 2013, PIDG harmonised some of its reporting indicators with other development finance institutions, and instead of reporting all taxes arising during the lifetime of the project, PIDG now reports transfers to government made by the client company during only the first five years of operation.

This means that our fiscal impact figures are more conservative than previously reported, especially since a number of developing countries' governments provide temporary tax reductions or tax abatement to foreign investors in the early years of a project to incentivise private sector investment in infrastructure.

Additional positive fiscal impact arises indirectly through the improvements in infrastructure enabled by PIDG projects, whether through increased access to energy or more reliable energy supply for businesses, through improved transport networks such as roads and ports, or through other means. These activities enable greater economic activity, which has a fiscal impact through the taxes paid by businesses and employees. This data would be extremely difficult to capture and to attribute to PIDG, so no attempt is made to estimate this element of positive fiscal impact flowing from PIDG's activities.

Expected cumulative fiscal impact generated by PIDG projects

(Estimated over the first five years of each project)

Sector	Fiscal impact (\$m)	Upfront fees to government (\$m)
Agri-infrastructure	26	-
Energy	1,837	632
Housing	201	130
Industrial infrastructure	497	240
Mining	621	621
Multi-sector	2	-
Telecoms	2,486	1,554
Transport	1,158	334
Urban development / infrastructure	0.23	0.03
Water, sewerage and sanitation	-	-
Grand Total	6,828	3,510

Gender

There is much evidence showing that the development outcomes of a project can be improved if the specific impacts on women are properly understood and addressed. Impacts on women will be affected by their different socioeconomic roles, access to assets and resources, and employment opportunities. Different ways of delivering infrastructure will impact women more or less effectively than others. Women may be involved to a greater or lesser extent in consultation, decision-making or sharing of benefits.

PIDG uses a tool (developed in collaboration with IFC) to estimate the number of women benefiting from the infrastructure provided by

each of its projects and gathers data on the number of women employed short-term and longer-term. PIDG faces challenges in generating more accurate data because when PIDG exits an investment the private sector buyer is under no obligation to report to PIDG; and it is often difficult in any case to define and disaggregate the beneficiaries of an infrastructure project.

During 2016, a gender review is being undertaken for InfraCo Asia: this will help PIDG to identify specific gender outcomes from projects, and to learn lessons. The review will also explore ways in which we can embed gender sensitivity into the selection and design of projects across our portfolio.

"Traditionally in Eastern Uganda, it is women and children who are responsible for getting the water. This limits their opportunities."

Phiona Rotaro
Programme Manager, Tradint Limited
Busembatia, Uganda
DevCo



"Our farmers are able to do more business than they did before the ferry was set up. Of course it is part of development – you can't have development without infrastructure."

Josephine Ariao
Ferry passenger
Bugala Island, Uganda
Kalangala Infrastructure Services (KIS)
InfraCo Africa, TAF, EAI, GuarantCo

“Filling in the gaps on the financial canvas as they appear so as to provide better development outcomes for low-income countries is what makes PIDG special.”

Keith Palmer

Special Advisor, PIDG Supervisory Board



PIDG FACILITIES

Technical assistance

Early stage development

Debt and guarantees

Equity and mezzanine

Telling PIDG's story

Keith Palmer is
Special Advisor
to PIDG's
Supervisory
Board

PIDG is a simple idea.

When businesses in developing countries can access affordable electricity supply or reliable telecommunications systems or usable roads they can compete and grow. The outcome is more jobs created, higher incomes and less poverty.

In the early 2000s it became clear that there was a major problem. There was far too little capital being invested in low income developing countries to build the infrastructure needed for these countries to prosper.

The private sector was not interested because of real concerns about political risk and regulatory uncertainty and the DFIs also showed little interest in financing infrastructure in these riskier countries.

PIDG was created to address this problem.

In the early years the need was to mobilise more medium and long term debt for early stage ('greenfield') infrastructure investment in these countries.

For this reason PIDG's first Facility Emerging Africa Infrastructure Fund (EAIF) was established in 2002 as an infrastructure debt fund focused exclusively on investment in lower income countries in sub-Saharan Africa. It has a novel, tiered capital structure which initially mobilised within the fund \$2m of private capital for every \$1m of donor capital. Within four years of start-up, as it became clear that the model was working, EAIF was able to further increase private sector leverage within the fund, mobilising \$4m of private capital for each \$1m of donor capital.

The fund structure generated leverage at the project and fund levels enabling more than \$10m of infrastructure finance to be mobilised for every \$1m of PIDG capital invested.

Soon after PIDG was created it became clear that there was also a need to provide support for local-currency denominated loans to finance infrastructure. In response, GuarantCo, a local currency guarantee facility, was created in 2004.

The importance of GuarantCo is that it reduces the risk of a mismatch between local currency denominated revenue streams and foreign-currency denominated debt service if exchange rates depreciate. Neither private sector credit enhancement institutions nor development finance institutions had much appetite for providing guarantees against this risk. GuarantCo provided a novel and important contribution to solving the problem – another instance of PIDG filling an important gap in the infrastructure finance 'space'.

At about the same time PIDG donors became aware that finance was not the only constraint deterring infrastructure investment. In many cases the problem was a deficiency of investment-ready opportunities at financial close. Private investors that would be willing to invest at financial close found it too risky to take on the very early stage development work such as gaining the necessary land rights and government consents and negotiating long-term offtake agreements.

Once again the PIDG donors took the initiative and created InfraCo, a donor-funded project development company whose aim is to reduce the costs and risks of project development pre-financial close, thereby mobilising at financial close private capital that would not have been invested without InfraCo's investment.

The InfraCo model was a first for PIDG. Now that it has proven to be successful not only have PIDG donors agreed to expand it and increase its reach in low income countries to parts of Asia as well as in sub-Saharan Africa but other development institutions have used the model to create their own project development vehicles.

The infrastructure finance landscape evolves over time. By the end of the 2000s, private sector lenders and DFIs had shown much greater willingness than at the start of the decade to provide debt finance for infrastructure investment in low-income countries. Accordingly the PIDG donors reviewed and refocused extra PIDG resources so as to maintain its position on the infrastructure finance 'frontier'.

In keeping with this philosophy PIDG has developed several new initiatives aimed at filling financing 'gaps'.

In response to the climate change challenge it has increased support for private investment in renewable energy.

Lately it has become apparent that the appetite of the equity market to invest in 'greenfield' infrastructure had not kept pace with the debt markets. For this reason PIDG has committed to further increase donor funding for investment in equity at financial close in projects where there is a demonstrable need for public funding to fill a financing gap.

PIDG is also exploring new ways of providing enhanced support to help improve the policy environment in host countries, so as to accelerate the rate of private investment in infrastructure.

Filling in the gaps on the financial canvas as they appear so as to provide better development outcomes for low-income countries is what makes PIDG special.

Scaling up PIDG's technical assistance work

PIDG's technical assistance funds, **TAF** and **DevCo**, fund key early-stage preparatory work ahead of and alongside other PIDG Facilities' activities

The PIDG business model is adapting to the challenges faced by today's poorest by recognising that tackling the infrastructure gap requires additional collaborative work upstream.

It has become evident that technical assistance has a greater role to play if PIDG is to continue to succeed and grow. For this reason, TAF and DevCo will now scale up their work, initiating a joint programme for 2016 and beyond.

TAF will offer a more accessible and expanded menu of grant funding that Facilities can apply to draw on.

Working jointly, TAF and DevCo will pilot embedding infrastructure transaction advisors alongside host country client government staff – at their request – to help to increase their capacity to put together a pipeline of bankable infrastructure projects that will attract private sector participation. The initiative aims address a key market failure – the lack of well-prepared, viable projects needed to close the infrastructure gap in developing countries – and ensure governments have sufficient capacity to develop and prioritise projects.

They will work ever more closely with PIDG Members' teams based in PIDG host countries. They will also promote the development of a more programmatic approach PIDG-wide, taking on a knowledge-sharing role to help all PIDG Facilities successfully implement projects which mobilise key private sector expertise and financing to tackle challenges faced by the world's poorest people, more quickly.



RIGHT: Cape Verde TAF grants supported the development of InfraCo Africa's Cabeólica wind power project

Technical Assistance Facility (TAF)

Providing grants for various forms of technical assistance within PIDG, to help Facilities overcome specific obstacles in the development of their projects

At a glance

Established	2004
PIDG Members currently funding	DFID, DGIS, World Bank-IFC, SECO, Sida
Cumulative PIDG Member funding	\$44m
Managed by	TAF is a fund within the PIDG Trust that is managed by PIDG CMO, PIDG TAF Technical Advisor and PIDG Trustees
Total commitments at 31 December 2015	\$12.65m to 68 completed grants \$18.04m to 34 live grants
2015 commitments	\$2.11m to 9 grants

New grants in 2015

Cameroon Cameroon Agri-Business – [GuarantCo](#)

Ethiopia Ethiopia Geothermal VGF Preparation – [InfraCo Africa](#)

Ethiopia Ethiopia Water Development Add-On – [InfraCo Africa](#)

Mozambique Mozambique Solar VGF Preparation – [EAIF](#)

Myanmar Myanmar Wind Power Capacity Development – [InfraCo Asia](#)

Nepal Nepal Power Sector Capacity Building – [GuarantCo](#)

Nigeria Nigeria Credit Enhancement Facility Part 2 Returnable Grant – [GuarantCo](#)

Rwanda Rwanda Bulk Water PPP-VGF Preparation, Part 1 – [EAIF](#)

Rwanda Rwanda Bulk Water PPP-VGF Preparation, Part 2 – [EAIF](#)

Achievements in 2015

In 2015, TAF approved nine grants totalling \$2.113m. TAF's work supported projects undertaken by [EAIF](#), [InfraCo Africa](#), [InfraCo Asia](#) and [GuarantCo](#). Our grant-making programme had several highlights during the year:

TAF made a grant of \$900,000 to GuarantCo to help set up a Nigeria Credit Enhancement Facility (NCEF) in partnership with Nigeria's sovereign wealth fund. The grant was the first example of a 'returnable' TAF grant. This model, implemented as conditions allow, will enable TAF to make more efficient use of its limited resources.

TAF's support for InfraCo Africa's Ethiopia Water Development Add-On will help pay for a feasibility study of how the water infrastructure required by a geothermal power project could be modified to deliver clean water to local communities. If viable, this will enable InfraCo Africa to increase the development impact of its Corbetti geothermal project.

TAF's grant to InfraCo Asia to support the development of a bankable Myanmar Wind Power project will facilitate InfraCo Asia's work to develop a renewable energy sector in Myanmar.

The activities funded by TAF to support InfraCo Africa's Cabeólica Wind project in Cape Verde were completed in 2015.

Other notable highlights

The TAF performance evaluation was initiated in late 2015 and preliminary draft reports were positive about TAF performance and future plans.

Mid-way through the year, TAF and [DevCo](#) put forward a series of joint proposals for a major scale-up of the activities of the two Facilities and the concept was approved by the PIDG Governing Council in December. PIDG have identified technical assistance as vital to the successful closure of more developmental and additional projects. The TAF/DevCo scale-up will enable TAF to offer Facilities a wider range of grants and services designed to overcome barriers to successful development of privately financed infrastructure projects.

2016 and beyond

During 2015, the aftermath of the global financial crisis as well as new Basel banking rules continued to restrict the ability of banks to finance large infrastructure projects in poor countries. With less commercial finance available, the number of applications for TAF grant funding submitted by PIDG Facilities accelerated toward the end of 2015. TAF therefore anticipates that 2016 will be one of the busiest years in its history.

The Facility is excited to move forward with the TAF / DevCo scale up, which will enable it to meet the increasing need for early-stage grant funding to bridge the gap between concept and commercial reality for infrastructure projects in sub-Saharan Africa and south Asia.

Cape Verde Cabeólica

TAF grants supported the development of InfraCo Africa's Cabeólica wind power project in Cape Verde

Meeting up to 25% of Cape Verde's energy demands



Context

Home to around 470,000 people, Cape Verde is an archipelago of 10 islands located approximately 500km off the north-west coast of Africa. In the mid-2000s, Cape Verde was heavily dependent on expensive fossil fuel imports for electricity generation, with fuel accounting for up to 11% of the country's total imports. Fuel security was a major concern, with residents impacted by regular power outages. In response, the Government of Cape Verde (GoCV) identified the potential of the country's high average wind speeds (up to 10 metres per second) for the development of wind power as a sustainable, affordable alternative to imported fossil fuels.

Project

In spite of Cape Verde's huge wind power potential, the GoCV struggled to attract private sector investment to progress the remote, complex project. In 2006, InfraCo Africa, through

its principal developer eleQtra, was approached to develop the Cabeólica wind power project, a wind farm development on four of Cape Verde's islands designed to generate up to 25.5MW of renewable energy. Cabeólica was Cape Verde's first public-private partnership (PPP) energy project, to deliver commercial-scale wind power. TAF provided a \$395,000 grant supporting the initial design and development of the project; funding capacity-building with government officials and related stakeholders; and a market assessment of Cape Verde's electricity demand. The grant also paid for a technical feasibility study looking at the logistics of a multi-location wind farm project and a study exploring the financial implications for the GoCV and national utility, Electra, of the proposed power purchase agreement (PPA).

In 2010, InfraCo Africa requested a further \$74,000 of TAF support to co-finance activity to reassure the GoCV regarding key contract documents. This second grant enabled the



government to access appropriate financial and legal advice on the PPA proposed by Cabeólica and advice around broader PPP approaches for the provision of power services. This work enabled the successful completion of the project's development and its timely financial close.

Impact

Now fully built and commissioned, Cabeólica is the first successfully closed commercial-scale PPP wind farm development in sub-Saharan Africa. Cabeólica provides approximately 25% of the country's energy and has reduced power generation costs by about 20%. Cape Verde's CO₂ emissions have fallen by almost 55,000 tonnes per annum and the project has been recognised by the UNFCCC as a Clean Development Mechanism project. Cabeólica directly employs 10 full-time local staff members to manage and operate the four wind farms and sell the electricity to the local utility as per the PPA signed with eleQtra and the GoCV. The project has given the GoCV the knowledge and experience to pursue future PPPs in the renewable energy sector, and Cape Verde now leads the world in its government's ambition to achieve 100% renewable energy supply by 2020.

Nigeria New 'returnable' grant will support establishment of Nigeria Credit Enhancement Facility (NCEF)

Nigeria is sub-Saharan Africa's largest economy, however economic growth has been hampered by a largely inactive capital market. Stimulating capital market development in Nigeria will facilitate debt-financed infrastructure investment, improve provision of vital services, and generate employment. TAF previously supported an investigation by **GuarantCo** and the Nigeria Sovereign Investment Authority (NSIA) of the commercial viability of a credit enhancement facility in the country. Building on this earlier work, TAF has now made available a \$900,000 'returnable' grant to provide 50% of the seed capital needed to set up the NCEF. The facility will maximise the impact of NSIA funding, attracting other investors to infrastructure projects by facilitating bank borrowing or bond issuance. The returnable grant is a first of its kind for TAF. The grant will be repaid if NCEF successfully raises investment funding on the resident capital market.

DevCo The Infrastructure Development Collaboration Partnership Fund

Providing transaction advisory services to governments on public-private partnerships (PPPs) and bringing bankable, transparent and competitively-tendered PPP projects to the market

DevCo is managed by the World Bank Group's International Finance Corporation (IFC)

At a glance

Established	2003
Funding PIDG Members	DFID, DGIS, Sida, World Bank-IFC, ADA-BMF DevCo is funded directly, not through the PIDG Trust
Cumulative PIDG Member funding	\$81m
Managed by	IFC, a member of the World Bank Group
Total commitments at 31 Dec 2015	\$39.36m to 59 projects, including 35 that have reached financial close, 8 that have reached commercial close, 12 that are under development, and 4 closed after completing Phase I studies
2015 commitments	\$4.66m to 7 projects

Expected development impact

	2015	Cumulative
Financially closed projects	3	25
Total investment commitments (TICs) (\$m)	201.95	2,355.15
% of TICs in DAC I/II/III		48%
% of TICs in FCAS		42%
Access (in millions)	0.04	26.44
Job creation: short-term	300	1,105
Job creation: long-term	233	-8,602
Fiscal benefits (\$m)	14	2,613

Note: DevCo's long-term job creation figure includes a privatisation project which resulted in a workforce reduction of 12,000.

Projects that reached financial close in 2015

- Niger** Niger Dry Port
- Philippines** Metro Clark Bulk Water Project
- Bhutan** Thimphu Parking PPP

Projects that reached commercial close in 2015

- Rwanda** Kigali Bulk Water Supply Project
- Uganda** Kampala Waste Management PPP
- Guinea** Guinea Power PPP
- Myanmar** Myingyan IPP

Achievements in 2015

Three ground-breaking PPP projects reached financial close in 2015.

The Niger Dry Port will increase efficiency of trade in Niger. The transaction mobilised \$77m in private investment and the Government of Niger will receive fees of over \$48m during the concession lifespan.

In the Philippines, the Clark Water project saw water and wastewater tariffs lowered by 1Php/m³ (\$0.02/m³) vs current tariffs. The project will generate \$115m in capital investment over the remainder of the concession.

In Bhutan, the Thimphu Parking project was the first urban infrastructure PPP to be closed in the country. Having mobilised \$9.6m in private investment, the project has improved traffic conditions, facilitating the development of vital mass public transportation. Thimphu Parking has potential for replication elsewhere in the country.

Other notable highlights

During 2015, seven new PPP mandates were signed. The new originations demonstrate DevCo's commitment to working across sectors and in difficult frontier markets: 71% were in DAC I/II countries and 43% were in fragile countries. In Zambia, for example, DevCo will support IFC to structure two competitively tendered private partnership transactions for two 50MW solar photovoltaic plants; while in Senegal, it will support the structuring and implementing of a pilot PPP for a bus rapid transport system in Dakar.

In Rwanda, the Kigali Bulk Water concession between the Government of Rwanda and Metito will meet 40% of the city's water needs over the next 27 years, generating over \$75m in private sector investment. EAIIF is also involved in progressing the financing of the project.

DevCo supported Uganda's Kampala Capital City Authority, to conclude a concession for solid waste collection that will serve 800,000 people. The project is the first of its kind in Uganda and has potential for replication in Zambia.

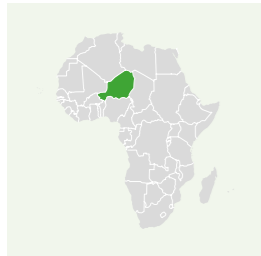
In Myanmar, DevCo supported IFCs structuring of the first competitive tender in the country's history – to select an independent power producer to build a 225MW combined cycle power plant in the Myingyan region.

2016 and beyond

From 2016-2020, DevCo will expand its work in frontier markets; specifically increasing its work in fragile and conflict affected countries. It will continue to bring innovation to its transactions, pursuing pioneering deals with the potential to transform an entire sector of a country's economy and deals which pave the way for future private sector investment opportunities. DevCo will also empower economic growth by supporting PPP transactions that remove critical obstacles to infrastructure development. Finally, DevCo will work closely with TAF to progress a joint scale up initiative.

Niger Niger Dry Port

DevCo supported IFC to develop the Niger Dry Port Project to improve efficiency of trade in Niger



Technology

Dry port facility



Total investment

\$77m

Context

Niger is a landlocked country which is entirely reliant upon the infrastructure and maritime access of neighbouring countries for its imports and exports. The time-consuming sorting and processing of merchandise from Niger takes place in the congested sea ports of Cotonou (Benin), Lome (Togo), Tema (Ghana) and Abidjan (Côte d'Ivoire). Transport costs are prohibitively high; presenting a major obstacle to Niger's development. The Government of Niger (GoN) are keen to pursue the development of dry port facilities and transport infrastructure to improve Niger's access to affordable trade.

Project

The IFC was engaged as the lead transaction advisor to the GoN and, with DevCo's support, was instrumental in structuring and implementing

the Niger Dry Port Project, a two-site facility in Dosso (corridor of Benin) and Niamey Rive Droite (corridors of Togo, Ghana and Côte d'Ivoire). The Niger Dry Port will be multi-modal with a connection to a new railway project linking the Port of Cotonou (Benin) and Niger. When completed, Dosso dry port platform will be the largest multi-modal cargo handling centre for imports from Benin.

IFC and DevCo worked to attract the private sector to the development and operation of the greenfield Dosso site and existing Niamey Rive Droite platform. As the first of its kind in Niger, the Niger Dry Port Project required extensive legal and technical support to structure an attractive, bankable deal with appropriate regulatory frameworks in place to ensure its success. Following IFC recommendations, the GoN created a Dry Port Authority in 2014 with responsibility for conceding and monitoring the concession.

Having established a transparent and competitive bidding process, IFC and DevCo were involved in helping to select a private operator, Bolloré Africa Logistics (BAL), to build, develop and operate both dry ports. BAL won a 20-year concession, investing \$77m and guaranteeing fees to the GoN of \$48m over the concession lifespan.

Impact

By moving essential sorting and processing of goods inland, the Niger Dry Port will reduce congestion at the regions' seaports. Inland processing will provide employment opportunities in Niger and will add value further up the supply chain. The Niger Dry Port will provide faster, more affordable links with coastal ports, facilitating efficient international trade while investment in transportation assets will enable Niger to accelerate the flow of cargo from ships to inland destinations. With improved access to trade within West Africa and internationally, the project has the potential to position Niger as an important trade hub.



Artist's impression of Niger Dry Port facility

Rwanda IFC and DevCo develop a PPP transaction to provide sustainable water for Kigali

Rwanda's capital, Kigali, has a population of over one million and is growing rapidly; placing considerable strain on the city's water infrastructure. Kigali customers experience intermittent supply due to limited water production capacity. The Government of Rwanda sought to develop a new water supply project through a PPP; retaining the IFC and DevCo to advise on the preparation, design and implementation of private sector participation in the project. The Metito Consortium won a 27-year concession to build, operate and maintain a 40,000m³/day bulk water scheme which will account for 40% of Kigali's potable water supply. This significant transaction is the first competitively tendered Water Build Operate Transfer Concession in sub-Saharan Africa (outside of South Africa), and Metito's \$75m is among the largest recent private sector investments made in the sub-Saharan water sector.

Changing the model for PIDG's early stage development work

PIDG's early-stage development Facilities **InfraCo Africa** and **InfraCo Asia** provide the funding and expertise needed to turn infrastructure projects in the making into investible opportunities of real interest to the private sector

An insufficient pipeline of bankable projects continues to hinder infrastructure investment in the countries where PIDG works.

This is principally attributable to the higher risks associated with early-stage project development – commercial and regulatory risks; unfamiliarity of local counter parties, counselling caution; capacity constraints in host country government teams – all meaning that private investors can be wary of involvement.

Principally, the InfraCos play where the private sector is unwilling and/or has failed to play.

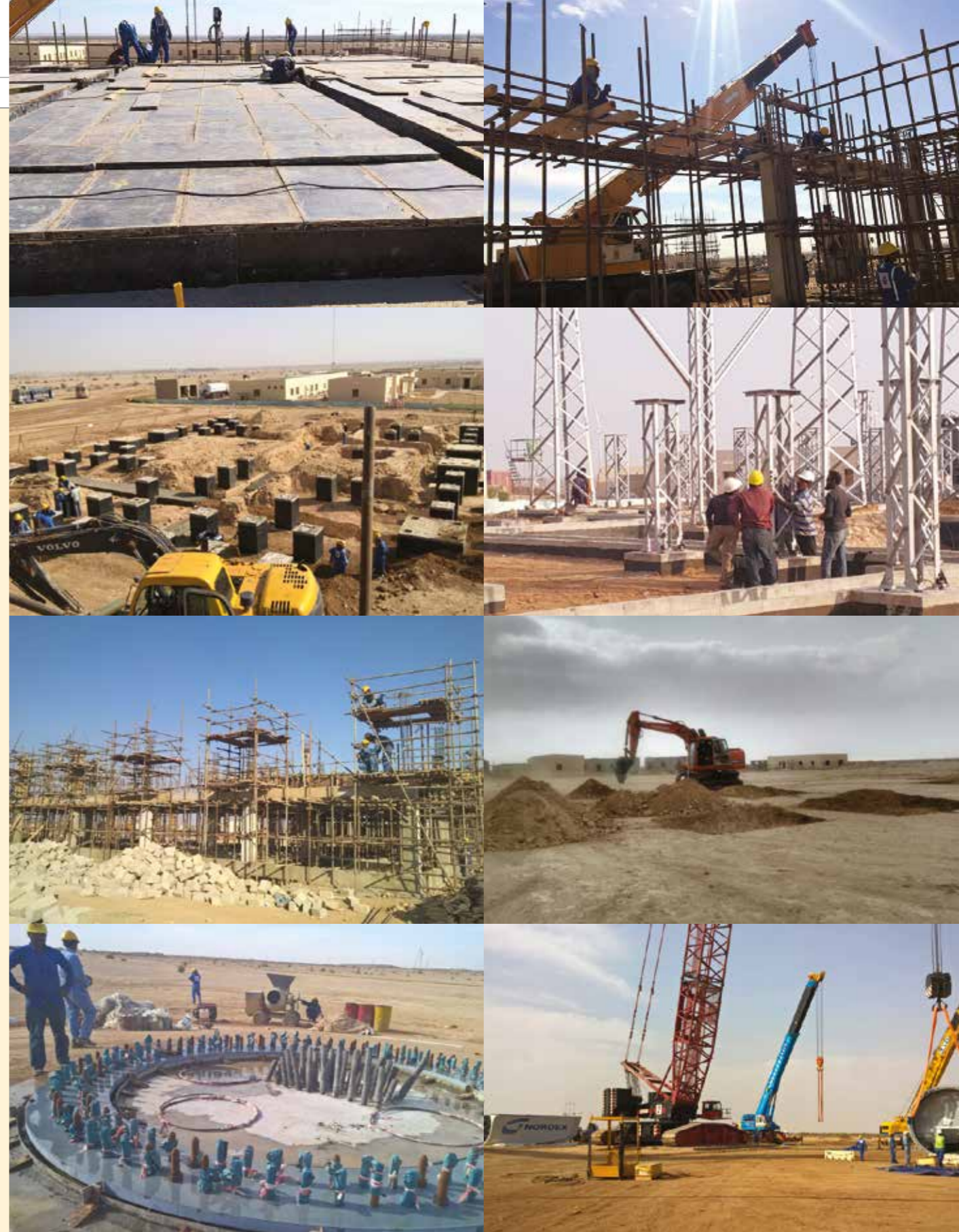
In 2016 and beyond the InfraCos will work very closely with TAF and DevCo as they scale up their activities, with the aim of meeting and addressing these perceptions of risk head on.

The InfraCos will work jointly with their private sector project developer partners to bring deals to fruition – an approach which has already proved successful in bringing relevant private sector skills and expertise to make projects happen.

Both InfraCos will also look to co-develop projects with Joint Venture Partners in their respective geographic areas that can move through early-stage development, reach financial close and become operational relatively quickly – and that are replicable. Demonstrating the viability of infrastructure projects in PIDG target countries will help encourage other private investors to enter the market.

The InfraCos are both heavily invested in renewable energy projects, much of this on-grid, but they are also actively looking for off-grid projects that will deliver economic development. InfraCo Africa made its first off-grid investment, to a company called Redavia supplying remote locations in Tanzania, in late 2015.

RIGHT: Pakistan Gul Ahmed, InfraCo Asia



InfraCo Africa

Originating, developing, structuring, investing and managing infrastructure projects in sub-Saharan Africa

At a glance

Established	2004
PIDG Members currently funding	DFID, DGIS, SECO
Cumulative PIDG Member funding	\$141.6m
Chair	Brian Count
Managed by	InfraCo Africa
Total commitments at 31 Dec 2015	\$68.09m to develop 15 projects, 9 of which have reached financial close and / or been sold
2015 commitments	\$31.15m across 5 projects which reached JDA, 1 of which reached financial close

Expected development impact

	2015	Cumulative
Financially-closed and / or fully-exited projects	1	9
Total investment commitments (TICs) (\$m)	2.4	2,062.9
% of TICs in DAC I/II		96%
% of TICs in FCAS		22%
Access (in millions)	0.01	13.001
Job creation: short-term	8	6,928
Job creation: long-term	8	1,018
Fiscal benefits (\$m)	-	603

Projects that signed a Joint Development Agreement or equivalent in 2015

- Ethiopia** Corbetti Geothermal
- Chad** Djermaya Solar
- Tanzania** Redavia Solar – Phase 1
- Mozambique** Pavua Hydropower
- Zambia** Western Power

Projects that reached financial close in 2015

- Tanzania** Redavia Solar – Phase 1

Projects that were sold in 2015

- Ghana** Ghana Wind

Achievements in 2015

In Q4 of 2015, InfraCo Africa reached financial close on the rapid scale up of Redavia; an innovative off-grid containerised solar business in Tanzania. Redavia has considerable potential for replication.

Other notable highlights

InfraCo Africa signed five new JDAs in 2015, committing up to \$31m to develop renewable energy projects in five different sub-Saharan countries (Zambia, Mozambique, Ethiopia, Chad and Tanzania). The projects include two hydro, one geothermal and two very different solar power projects. The JDAs represent success for our new approach of a mix of developer teams and co-development, with two signed by eleQtra, one by AADL and two co-developments.

InfraCo Africa substantially progressed work on Corbetti, Ethiopia's first IPP Geothermal project. Harnessing geothermal expertise and innovative finance from across the world, Corbetti will develop an exciting renewable energy source with possibilities for replication across the Rift Valley.

InfraCo Africa has enhanced its team with two experienced project managers, building its capacity in solar, geothermal and wind power.

Kalangala Infrastructure Services (KIS) is nearing completion of the 66km road upgrade on Bugala Island, Uganda. This achievement marks the final stage of a project which has delivered clean water, solar power, reliable ferries and improved road infrastructure to Bugala Island.

2016 and Beyond

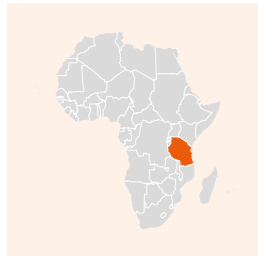
InfraCo Africa will continue to provide the necessary capital to accelerate infrastructure project pilots which can then be scaled up and/or replicated. Although not without risks and challenges, its new strategy enables it to demonstrate early on that a project is viable and sustainable, building engagement and attracting private investment.

InfraCo Africa works to engage with local communities on all of its projects. For its larger-scale projects, it will pursue innovative initiatives that share benefits with those living near the project sites to help communities develop and achieve their goals. Alongside this, InfraCo Africa has identified that attracting private finance to the sub-Saharan water sector can be extremely challenging and so InfraCo Africa is exploring opportunities to embed community water projects into its larger scale energy projects; leveraging economies of scale, drawing investment into frontier markets and increasing the development impact of its work.

InfraCo Africa will continue to work closely with its developer partners, building its pipeline of projects and increasing its market presence. It will also actively pursue co-development opportunities. InfraCo Africa will continue to exchange knowledge with its sister Facility, InfraCo Asia, and will work closely with other PIDG Facilities to maximise its impact.

Tanzania Redavia

Delivering 3MW of containerised off-grid solar power to rural businesses and homes



Technology:
3MWp off-grid solar power



Total investment:
Up to \$5m



Number of people benefitting:
(Phase one) 9,400

Context

Tanzania has an electrification rate of just 3.6% in rural areas. Many of the 7.8 million rural households and 2.4 million small to medium enterprises (SMEs) operating in Tanzania's frontier markets are reliant upon expensive kerosene or diesel generators. In order to address this challenge, the Government of Tanzania (GoT) established the Rural Energy Agency (REA) to promote and facilitate off-grid power solutions. Tanzania's high irradiation levels, coupled with the falling cost of solar photovoltaic (PV) panels, identifies off-grid solar as a competitive energy solution for rural communities.

Opportunity

Redavia Tanzania Asset Ltd. ('Redavia') was founded in 2014 by its parent organisation Redavia GmbH and funders including the Shell Foundation and Renewable Energy and Energy Efficiency Partnership (REEEP). Redavia GmbH

has developed an innovative solution to rural power: standardised shipping containers, each with an installed capacity of up to 100KWp of solar power, which can be assembled on site in just six days. Redavia's technology provides standalone power or can hybridise with existing diesel generators to reduce operating costs and harmful emissions. Offered on a rental basis, individually or as a modular array, the containers are maintained by Redavia and can be redeployed if necessary. This innovative model avoids the high up-front costs and lengthy development and construction periods associated with static PV, providing a sustainable, affordable power solution for small businesses and rural communities.

Redavia offered InfraCo Africa the opportunity to provide highly catalytic capital, which is expected to allow the company to scale up, thereby enabling it to attract private sector investment, once it demonstrates its ability to scale. In 2015, InfraCo Africa signed a Convertible Loan Agreement with Redavia, providing the capital

needed to build and rent two containers to a local mini-utility, which will construct a mini-grid, and connect and bill households in the rural communities of Isenzanya and Shitunguru. The pilot phase will provide learning to feed into the construction and deployment of around 30 further containers, enabling Redavia to broaden its customer base and demonstrate scalability. Once operating at scale, InfraCo Africa will exit the business, securing further private sector investment to enable its expansion.

Impact

Redavia's solar PV containers will transform rural living standards and provide isolated SMEs with the sustainable, long-term power solution they need to be productive and profitable, fuelling economic growth in Tanzania. Pursuing the rapid deployment of containerised off-grid solar power will also reduce CO₂ emissions as solar panels displace the use of diesel generators, kerosene and wood fuels.

Uganda Kalangala Infrastructure Services (KIS) completes its final phase

KIS has developed and operates a multi-sector utility providing critical infrastructure services to communities on Bugala Island in Lake Victoria, Uganda. In partnership with the Government of Uganda, KIS has provided safe, reliable access to mainland services, facilitated trade, improved islanders' health, provided employment and enabled business and economic growth.

2015 saw KIS commissioning a new water treatment facility providing clean, potable water to 19 villages. KIS also commissioned its 1.6MW solar diesel hybrid plant, connecting 2258 households to their newly constructed grid and taking over operation of the government's grid in Kalangala Town. Initially building and operating two roll-on roll-off ferries. The final strand of infrastructure, widening and resurfacing the 66km Luuku to Mulabana Main Road with durable, local murrum, is due to be completed in early 2016 and marks the final phase of the \$49m KIS project, completing all four aspects of the project.



Bugala Island's main road is being built employing local staff and using local materials

Bugala Island, Uganda
Kalangala Infrastructure Services (KIS)
InfraCo Africa, TAF,
EAIF, GuarantCo

InfraCo Asia Development

Originating, developing, structuring, investing and managing infrastructure projects in Asia

At a glance

Established	2010
PIDG Members currently funding	DFID, SECO, DFAT
Cumulative PIDG Member funding	\$87.3m
Chair	Kenneth Baxter
Managed by	InfraCo Asia
Total commitments at 31 Dec 2015	\$38.8m to develop 9 projects, 4 having reached financial close and 5 having signed a JDA
2015 commitments	\$7.87m on 1 project

Expected development impact

	2015	Cumulative
Financially-closed projects	1	4
Total investment commitments (TICs) (\$m)	119.4	272.8
% of TICs in priority countries*		87%
% of TICs in FCAS**		87%
Access (in millions)	0.35	0.83
Job creation: short-term	600	1,700
Job creation: long-term	28	446
Fiscal benefits (\$m)	-	0.5

* Priority countries: Bangladesh, Bhutan, Cambodia, Laos, Myanmar, Nepal, Pakistan and DFID focus states in India.

** Fragile and conflict affected states: Bangladesh, Myanmar, Nepal, Pakistan, Sri Lanka.

InfraCo Asia comprises two companies: InfraCo Asia Development – investing early-stage development capital – and InfraCo Asia Investments – offering debt and equity close to financial close.

See [p67](#) for a description of [InfraCo Asia Development's](#) work in 2015.

See [pp86-89](#) for a description of [InfraCo Asia Investments](#) and a case study explaining InfraCo Asia's equity capability.

Projects that reached financial close in 2015

Pakistan Gul Ahmed Wind Power

See [case study on p87](#)

www.infracoasia.com

Achievements in 2015

In 2015, InfraCo Asia Development achieved financial close for the 50MW Gul Ahmed Wind Power Project. InfraCo Asia Development committed \$7.87m, along with a \$9.3m investment from InfraCo Asia Investments (see [p87](#)), as a Joint Venture Partner. The project mobilised an additional \$119.4m of investment. Construction on Gul Ahmed commenced in 2015, and it is expected to be commissioned in Q3/Q4 2016.

Other notable highlights

InfraCo Asia Development achieved strong project development and implementation progress in 2015. It also made significant advancements in its newly-launched co-development program.

Significant progress was made throughout 2015 on InfraCo Asia's Coc San Hydropower Project in Lao Cai province in Vietnam. Construction was completed in Q1 2016 and the plant became commercially operational in May 2016.

InfraCo Asia Development signed a five-year Developer Services Agreement for Myanmar with InfraCapital Myanmar (ICM) in June 2015. The partnership marks the launch of its project development activities in Myanmar. ICM has already established a solid pipeline of projects across the energy, transport, agriculture and rural development sectors.

2015 saw the expiry of InfraCo Asia Development's contract with its first developer: Nexif (InfraCo) Management Pte Ltd. In September 2015, it commenced a competitive tender process to engage two new developers to originate and develop projects in south Asia and south-east Asia.

InfraCo Asia was pleased to host its Australian, Swiss and UK donors on-location at project sites in Pakistan and Vietnam in 2015.

InfraCo Asia was shortlisted for the Euromoney Infrastructure Journal Global, 'IJ Global' Awards 2015 in the 'sponsor' category for Asia, securing second place in a highly competitive field.

InfraCo Asia's management team engaged with a range of Asia Pacific infrastructure and PPP forums throughout the year; raising its profile and building 'leadership capital' – a vital part of encouraging more private sector investment in emerging Asia.

InfraCo Asia Development's management team grew by four over 2015, extending its capacity in the areas of legal, administrative, business analysis, finance and communications.

2016 and beyond

Across Asia, governments are generally making good progress on regulatory frameworks that will make private sector investments in infrastructure, and notably renewable energy, more sustainable and commercially viable. There remains, however, a shortage of well-structured projects to mobilise available capital – both debt and equity – and InfraCo Asia is well-positioned to address this challenge.

In May 2016, InfraCo Asia Development will bring on two new developers – Infunde Development Private Ltd and Equicap Asia Pte. Ltd. The new developers will build InfraCo Asia's pipeline of projects, significantly increasing its market presence. InfraCo Asia will also actively pursue co-development opportunities. It will continue to regularly exchange knowledge with its sister Facility, InfraCo Africa, and will work closely with TAF, DevCo and GuarantCo.



Vietnam Coc San hydropower project switch on in summer 2016

Commercially operational from May 2016 InfraCo Asia's Coc San Hydropower Project will strengthen the power grid of Vietnam's Lao Cai Province, supplying 29.7MW of clean, renewable energy. The run-of-river plant will reduce carbon emissions by about 76,000 tonnes per annum. InfraCo Asia has invested \$7.5m, mobilising \$30.9m of further investment. Coc San was also supported by InfraCo Asia Investments and TAF.

Coc San will benefit up to 130,000 people, providing access to reliable and affordable power. In addition, the project company has implemented Community Development and Livelihood Restoration Programmes, which have been well received by local communities. Coc San has been developed with minimal environmental impact and incorporates a tourist rest area and look-out, which will attract travellers on the busy road from Lao Cai to Sa Pa.

Lending just ahead of financial close to secure private sector participation

The **Emerging Africa Infrastructure Fund (EAIF)** and **GuarantCo** provide elements of the financing needed to secure private sector participation in commercially viable infrastructure projects in 'higher risk' frontier markets

Infrastructure Crisis Facility – Debt Pool (ICF-DP), a time limited Facility, has successfully completed its life-cycle and has begun repaying its funds

Although there is now greater availability of debt financing, EAIF's continued primary purpose remains the long-term nature of its support. While its loans to private sector-sponsored projects are made at commercial interest rates, it offers tenors of up to 20 years, unlike commercial lenders (especially domestic banks) which lend for shorter terms.

GuarantCo provides local currency guarantees to banks and bond investors, mostly local or regional. GuarantCo's guarantees help infrastructure projects – which normally generate their revenues in local currency – to avoid relying on foreign currency debt. In countries with weak or volatile currencies, a sudden devaluation can seriously damage the commercial viability of an infrastructure project because diminished local currency revenues are insufficient to meet foreign currency repayment obligations.

GuarantCo's secondary mission is to support the development of local capital markets that can, in the future, finance a greater proportion of local infrastructure (and other) needs themselves.

A time-limited lending Facility ICF-DP was set up in 2009 in the wake of the global financial crisis and closed to new loan applications at the end of 2015, having fulfilled its mandate.

ICF-DP is the first of PIDG's Facilities to complete its market-facing life-cycle, on time and to plan, and has begun repaying funds to its principal donor, the Federal Republic of Germany's development bank KfW.



The Emerging Africa Infrastructure Fund (EAIF)

Providing very long-term foreign currency loans to private sector investors to support projects in sub-Saharan Africa

At a glance

Established	2001
PIDG Members currently funding	DFID, DGIS, Sida, SECO
Cumulative PIDG Member funding	\$389.9m
Fund capacity	As of 31 December 2015, \$211.6m of debt has been raised, however EAIF is in discussions to raise a further \$90m
Chair	David White
Managed by	Frontier Markets Fund Managers Ltd
Total commitments at 31 Dec 2015	\$1,036m to 57 projects that have reached financial close or have been repaid
2015 Commitments	\$84.75m to 9 projects that reached financial close

Expected development impact

	2015	Cumulative
Financially-closed projects	9	57
Total investment commitments (TICs) (\$m)	858.9	14,677.47
Private sector investment commitments (\$m)	632.28	9,237.75
% of TICs in DAC I/II/III		73%
% of TICs in FCAS		67%
Access (in millions)	2.21	179.89
Job creation: short-term	2,726	26,293
Job creation: long-term	7,942	14,626
Fiscal benefits (\$m)	30	1,526

Projects that reached financial close in 2015

Congo (Republic) Helios Towers

Chad Helios Towers

Ghana Eaton Towers

Uganda Siti 1 DI Frontier

Mozambique Moma Titanium Mineral Projects support facility

Nigeria African Foundries Limited II

Multiple countries O3B Expansion

Congo DR Plantation et Huileries du Congo (PHC)

Uganda Soroti Solar PV

Projects that became fully operational in 2015

Multiple Countries O3B

Côte d'Ivoire Azito Energie Expansion

Achievements in 2015

EAIF closed nine transactions during the year, leveraging \$632m in private sector investments, significantly exceeding its targets. Deal sizes were on the whole smaller than anticipated, due to a focus on the renewable sector as well as the challenges of closing larger transactions as a result of the slowdown in the global infrastructure market. Falling commodity prices, coupled with new capital requirement regulations – which increased the cost of lending – saw commercial lenders (e.g. Barclays) withdrawing from SSA markets in 2015.

Notable EAIF transactions in renewables were the financing of two energy projects in Uganda; one of these, Access Soroti, saw EAIF provide \$5.3m in long-term senior debt to enable the development of a 10MWp solar farm.

EAIF is mandated to work in very challenging frontier markets – fragile and conflict affected states and others with high credit risk – and in 2015 delivered PIDG's first transaction in Congo-Brazzaville, part-financing Helios Towers Congo-Brazzaville (HTC) to acquire, build, own and lease a network of telecoms towers in the country. The project will increase vital access to telecoms and drive down costs to consumers.

Other notable highlights

At Lake Kivu, on the border between Rwanda and DRC, the KivuWatt project became operational. KivuWatt demonstrates the potential for an innovative approach to energy generation – utilising methane gas extracted from a lake-bed via moored barges. The methane powers a 25MW power plant, safely removing harmful gases from the lake-bed to supply the Rwandan

national grid with electricity generated from a locally-found and competitively-priced fuel source. In addition to businesses and homes being able to benefit from a larger national supply of power, the amount of expensive, imported diesel fuel used to run business and domestic generators can be reduced.

In Rwanda's capital Kigali, a water treatment and production project, Kigali Bulk Water, supported by DevCo at an earlier stage, will deliver fresh, clean water to around 500,000 households in the city. Although the transaction has not yet reached financial close, preparations are advanced. The project uses a form of PPA agreement derived from that used for energy generation projects; a pioneering example which demonstrates a method by which water projects can be financially viable.

2016 and beyond

Encouraging and supporting investment in digital infrastructure will be a key focus for EAIF going forward. Improved digital infrastructure has been identified as a key driver in enhanced development outcomes enabling, for example, the rapid expansion of mobile finance systems and increased connectivity for businesses. Access to digital infrastructure can also facilitate engagement with more remote communities, more quickly and cost-effectively.

Aligned with this, EAIF intends to prioritise increasing rural access to infrastructure – both in terms of telecoms and energy. Alongside larger on-grid projects, it believes that supporting independent grids for solar energy will be important, requiring innovative thinking around storage.

Uganda Access Uganda Solar (Access Soroti)

Delivering 10MWp of solar power to Uganda’s national grid, diversifying the country’s energy mix and reducing costs for business and domestic users



Technology
Renewable energy
10MWp grid-connected
solar power



Total investment
\$14.3m (\$18.9m
with GETFiT premium
reinvested)



**Number of people
benefitting**
32,250

Context

Uganda has an electrification rate of just 18%. Accelerating industrialisation and continued economic and population growth in the region has led to a 7-9% per annum growth in demand for power. Uganda currently derives 82.1% of its installed capacity from hydropower plants, with thermal power dominating the remainder of the country’s energy mix. Although hydro power is clean and renewable, it is highly susceptible to fluctuating seasonal rainfall, putting the country at significant hydrological risk.

In response to this, the Government of Uganda (GoU) made a strategic decision to develop the country’s wider renewable energy sector. This included the creation, with international support, of a Global Energy Transfer Feed-in Tariffs (GETFiT) Premium Payment Mechanism designed to make small-scale (up to 20MW) renewable energy generation projects viable.

Project

Access Uganda Solar (Access Soroti) will develop, construct and operate a fixed tilt 10MWp solar photovoltaic (PV) plant in the Soroti District of eastern Uganda, around 300km north-east of the capital Kampala. The project will also construct a 3km, 33kV transmission line to feed power into the Ugandan national grid. The plant will sell power to the Uganda Electricity Transmission Company Ltd (UETCL) under a 20-year Power Purchase Agreement (PPA) backed by a sovereign guarantee from the GoU. The sponsors, Access Infra Africa Ltd and EREN Renewable Energy, were awarded the project following a tender process under the GETFiT programme, which will ensure that the net tariff payable by the GoU and Ugandan consumers is \$0.11/KWh. The tariff is lower than existing market tariffs for hydropower, and significantly cheaper and cleaner than power from thermal sources.



Stephane Bontemps, Managing Director at Access, and Hon. Peter Lokeris, Uganda’s State Minister for Mineral Development, celebrate the ground breaking ceremony for the Soroti solar power plant, the first of its kind in Uganda

Despite support from GETFiT, Access Soroti required a long debt tenor to be bankable. EAIF and the lead arranger, FMO, each provided 50% of the total senior debt for the project with a debt tenor of 17 years; significantly longer than that offered by local or international commercial banks. EAIF were involved in the original development of GETFiT and this, coupled with its substantial knowledge of the Ugandan energy sector, enabled it to process the project quickly. EAIF also brought its commitment to working in fragile DAC I countries and a willingness to accept the risks associated with small-scale renewables.

Impact

With construction set to commence in early 2016, the project will be the first industrial-scale solar project in Uganda and will assist in diversifying Uganda’s energy mix. By reducing dependence upon expensive, environmentally-damaging thermal power, the project will bring down the average cost per unit of electricity and reduce CO₂ emissions by 263,355 tonnes per annum. Access Soroti marks the first major step in utilising the abundant solar irradiation of Uganda to address the country’s current electricity shortage and meet growing demand for sustainable, affordable power in the future.

Congo-Brazzaville Helios Towers will improve mobile telecoms access

As private sector appetite for direct investment in sub-Saharan telecommunications has increased, PIDG has scaled back its investment in this sector. However, where there is a need, in fragile and conflict affected states, there is still a role to play. The Helios Towers project marks PIDG’s first transaction in Congo-Brazzaville.

EAIF has provided essential debt finance – a \$7m long-tenor loan – for the expansion of Helios Towers Congo-Brazzaville Limited (HTC). The project will enable the company – currently Congo-Brazzaville’s only independent tower company – to acquire, construct, operate and lease a network of telecoms towers to internet and mobile phone providers. The shared infrastructure model will drive down costs for consumers, create competition and enable greater coverage in remote and rural areas.

EAIF is in a unique position to share the expertise it has gained elsewhere in order to connect the citizens of Congo-Brazzaville to an affordable, reliable telecoms network.

GuarantCo

Providing local currency guarantees for infrastructure financing in lower-income countries in Africa and Asia and providing dollar-denominated guarantees in fragile and conflict-affected countries

At a glance

Established	2006
PIDG Members currently funding	DFID, Sida, SECO through the PIDG Trust, DGIS through FMO
Cumulative PIDG Member funding	\$280.9m
Fund capacity	Approved maximum capacity of \$1bn, activated fund capacity of \$713.9m
Chair	Andrew Bainbridge
Managed by	Frontier Markets Fund Managers Ltd
Total commitments at 31 Dec 2015	\$513m to 36 projects that have reached financial close or been redeemed
2015 commitments	\$107.5m to 6 projects that have reached financial close

Expected development impact

	2015	Cumulative
Financially-closed projects	6	36
Total investment commitments (TICs) (\$m)	307.33	4,246.83
Private sector investment commitments (\$m)	297.33	3,754.03
% of TICs in DAC I/II/III		96%
% of TICs in FCAS		42%
Access (in millions)	1.976	34.26
Job creation: short-term	505	66,158
Job creation: long-term	1,174	212,186
Fiscal benefits (\$m)	157	1,452.26

Projects that reached financial close in 2015

Pakistan ByCo Oil Pakistan Limited (BOPL)
India Calcom Cement 2 India Limited (Calcom)
Cameroon Noha Nyamedjo & Transmar S.A. (NNT)
Ghana Quantum Terminals Limited II (QTL)
South Africa South Africa Development Finance Company III
Zambia Ulendo Road Infrastructure Note Programme

Projects that became fully operational in 2015

Ghana Quantum Terminals Limited
Thailand Thai Biogas Energy Company

Achievements in 2015

In 2015, GuarantCo achieved financial close on six projects, with a total exposure of \$107.5m. The projects were delivered across the energy, construction and transport sectors.

In Zambia, GuarantCo provided a guarantee to Ulendo RINP, a special purpose company set up to finance local contractors working on Government of Zambia priority road repair programmes. The pioneering deal, in Zambian Kwacha, has contributed towards building local capital markets.

In Cameroon, GuarantCo helped support financing for a cocoa processing project, one of the first project financings it has achieved in Central Africa.

Ratings

GuarantCo is highly rated internationally. In 2015, both Fitch and Moody's renewed their existing ratings, Fitch at AA- and Moody's at A1, with Bloomfield also renewing its AAA rating.

Importantly, GuarantCo achieved an AAA rating from the Pakistan Credit Rating Agency (PACRA), making it the first international DFI operating in Pakistan to have a local credit rating. GuarantCo also received regulatory approval from the State Bank of Pakistan. In another first, GuarantCo received regulatory approval from the Capital Markets regulator of West Africa, giving it a full licence to issue guarantees in the region.

Why are ratings and regulatory approvals important?

Formal ratings and regulatory approvals make it easier for banks based in PIDG's target countries to use GuarantCo's guarantees.

"In practical terms, Central Bank approval means that local banks can utilise a GuarantCo guarantee more efficiently. They don't have to put so much capital into a transaction when they lend. In this way it helps to bring down the cost of finance, increases the finance available and enables longer tenors."

Chris Vermont **GuarantCo**

Other notable highlights

GuarantCo has strengthened its presence in east and southern Africa, opening an office in Nairobi, Kenya. This presence will accelerate GuarantCo's activities in the region and it is hoped that other PIDG facilities will co-locate in an expanded office.

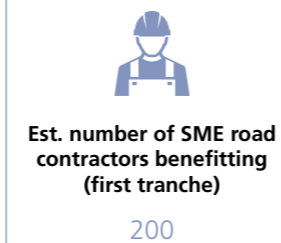
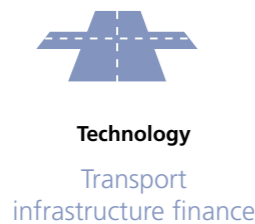
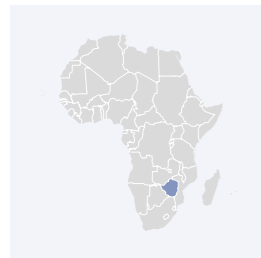
In Nigeria, GuarantCo is in discussions with the Nigerian Sovereign Investment Authority (NSIA), the country's sovereign wealth fund, to initiate the development of a dedicated Nigerian infrastructure currency guarantee organisation. It is anticipated that this initiative will provide a model for replication in other countries.

2016 and beyond

The practice of providing debt finance in hard currencies, while revenues are in local currency, presents a key obstacle in closing the infrastructure gap; exposing local borrowers to significant currency risk or, as is often the case in the electricity sector, passing that risk down to the consumer, who is least able to absorb it. In 2016 and beyond, GuarantCo will work closely with TAF to provide advice to governments in a small group of PIDG target countries, demonstrating the benefits of 'de-dollarising' infrastructure projects. The work will particularly focus on the power sector where infrastructure continues to be financed almost exclusively in hard currencies, even for smaller renewables projects that could be readily financed by the local markets in the target countries.

Zambia Ulendo Road Infrastructure Note Programme (RINP)

Providing Zambian road contractors with the liquidity they need to complete government contracts



Context

The Government of Zambia has embarked upon an ambitious road improvement programme designed to shift Zambia from a 'landlocked to a land-linked country. Better road infrastructure will increase the country's connectivity and accessibility, cut transport costs and times and reduce poverty by creating jobs for Zambians. Investment in the sector will support economic growth and help diversify the Zambian economy from its heavy dependency on copper exports.

In the past, the road-transport sector was dominated by foreign contractors who had the capital and technical capacity to execute large contracts. As a means of empowering Zambian contractors, the government introduced a policy requiring at least 20% local component with every road contract. A further policy, issued in 2015, designated 30% of local tenders for female contractors. These initiatives have driven local contractor participation in the industry, but such

small and medium enterprise (SME) contractors face challenges in accessing sufficient financing, particularly as there can be delays in the timing of any payments due from governmental bodies.

Project

The Focus Investment Group (FIG) has been involved in a number of financing initiatives to support local road contractors. Through its Focus Financial Services subsidiary, it was already involved in invoice discounting but realised that it was unable to service the demand without significantly scaling its own funding resources. Accordingly, FIG established Ulendo RINP Limited (Ulendo), to raise funds from local capital markets through a listed Kwacha medium-term note programme and be available to international and local investors, including the public. Interim payment certificates (IPCs) are issued by the National Road Fund Agency against the satisfactory completion of set construction targets, negating any performance risk associated with the contractor, but payment under

the IPCs can be delayed, which can strain the financial resources of the local contractors. The funds obtained by Ulendo would be used to purchase IPCs from local contractors at a discount that would provide contractors with the certainty of timely working capital to continue to operate. Ulendo would then take on the timing and payment risk under the IPC but potentially secure the full value to cover its operating costs and debt service, to pay interest to investors.

FIG approached GuarantCo to provide a liquidity guarantee covering interest payments to investors in the note programme and to provide certainty of payment. Should there be non-payment (rather than just delayed payment) against the IPCs, then this is insured by the Africa Trade Insurance Agency (ATI). Collectively, this has delivered the necessary credit enhancement to ensure the programme's success.

Impact

The project is an innovative capital markets transaction for Africa, and certainly for Zambia. It is anticipated that GuarantCo's involvement in strengthening local capital markets to fund the road sector will, once proven, have a demonstration effect for other markets. With support from TAF and working with FIG, GuarantCo intends to increase investor participation in the next tranche of notes through ongoing investor education around the initiative.

Empowering local contractors to participate in the government's ambitious road building programme will not only facilitate swifter progress in improving Zambia's road infrastructure, it will help local road contractors to complete government contracts, securing employment and helping to reduce poverty levels in Zambia.

Cameroon Noha Nyamedjo & Transmar (NNT) will double cocoa processing in-country

Cameroon is the world's fourth largest cocoa producer. However, only 15% of its cocoa is processed onshore due to lack of processing infrastructure. NNT, a joint venture between a local cocoa entrepreneur and an international cocoa trader, will double local processing, creating jobs and additional export earnings.

NNT required debt finance to build, own and operate the 32,000 mtpa cocoa processing factory in Douala. Smallholder farmers will sell directly to the factory and hold a 2% share of the business. GuarantCo's 50% partial credit guarantee of XAF 6.6bn enabled SCB Cameroon (a subsidiary of Attijari Wafa Bank of Morocco) to undertake its first project finance transaction in Cameroon. Using TAF grant funding, GuarantCo was also able to work with NNT and SCB Cameroon to help make the project bankable and set precedents which will build local capacity for future project financings in the region.

Infrastructure Crisis Facility – Debt Pool (ICF-DP)

ICF-DP was a time-limited Facility, set up in 2009 and closed to new business in 2015, providing long-tenor loans to support infrastructure projects which had become stranded by the global financial crisis

ICF-DP was established with a pledge of €500m from the Federal Republic of Germany via its DFI KfW. In addition to its work in sub-Saharan Africa and south-east Asia, ICF-DP operated in emerging markets in the Middle East, eastern Europe, Latin and Central America

At a glance

Established	2009 ICF is a closed-end fund and will not make investments beyond December 2015
PIDG Members currently funding	KfW
Cumulative PIDG Member funding	\$7.8m
Chair	Andrew Bainbridge
Managed by	Cordiant Capital Inc.
Total commitments at 31 Dec 2015	\$555.3m to 18 projects that have reached financial close or have been repaid
2015 commitments	\$63m to 3 projects that reached financial close

Expected development impact

	2015	Cumulative
Financially-closed projects	3	18
Total investment commitments (TICs) (\$m)	410.5	5,759
% of TICs in DAC I/II/III		20%
% of TICs in FCAS		19%
Access (in millions)	0.45	10.09
Job creation: short-term	683	9,183
Job creation: long-term	1,221	4,011
Fiscal benefits (\$m)	37.1	632

Projects that reached financial close in 2015

Multiple countries Karadeniz

Turkey HKA

Guatemala Generadora San Mateo (GSM) and Generadora San Andres (GSA)

Achievements in 2015

In its final year of active operations, ICF-DP achieved financial close on three projects.

Amongst these, the Karadeniz project saw the completion of an innovative redesign of a ship to incorporate a power plant; the ship will sail to Indonesia, bringing power to 85,829 people in North Sulawesi and 174,227 people in Gorontalo who currently have no access to electricity.

The HKA project in Turkey will provide \$30m finance to build four integrated waste management facilities collecting and using organic waste to produce a highly competitive fertiliser product. Separating organic and inorganic waste will reduce landfill and associated methane emissions.

Other notable highlights

In Ghana, the Takoradi thermal power plant expansion was completed and began to generate power. This expansion reduces the cost of electricity and removes the need for consumers to operate expensive, polluting diesel back-up generators.

In the Kurdistan Region of Iraq, ICF-DP committed \$50m to Zakho, an 875MW natural gas-fired power plant located near the city of the same name. Although the region currently presents considerable challenges including the ongoing conflict in nearby Syria, it is for this reason that the project will deliver high development impact.

2016 and beyond

Over the next 12-15 months, ICF-DP will continue to disburse loans it has committed.

ICF-DP will now wind down over an extended period taking repayments on its existing long-tenor loans and returning these to KfW. Having received one extension of two years to the Debt Pool investment period which was driven by the donor, ICF-DP anticipates that KfW's original pledge of €500m will be returned to the German taxpayer in its entirety by 2027.

Reviewing seven years of ICF-DP

Andrew Bainbridge is Chair of ICF-DP's Board

ICF-DP is the only PIDG Facility to have been established with a finite lifespan and it ceased making commitments in December 2015 on time and as planned.

We are very proud of our achievements over the past seven years, in the wake of the global financial crisis. ICF-DP provided crucial 'last-mile' financing to support high-impact infrastructure projects which would otherwise have faltered or failed to progress.

Since its inception, ICF-DP has committed \$555.3m, achieving financial close or repayment on 18 projects.

Its greatest exposure is in the transportation and power sectors; the projects in these sectors are expected to have a positive impact on the lives of 6.5 million people.

The power sector projects will allow 3.5 million people to access electricity, enhancing their ability to work, study and communicate.

Transportation projects supported by ICF-DP will allow a greater flow of goods and services, stimulating economic activity and supporting the maintenance of vital personal connections.

With the steady return of traditional lenders to the infrastructure market, we are pleased to have provided the bridge to a 'new normal'.

Kurdistan Region of Iraq (KRI) Zakho Power Project

The KRI lies close to the border with Syria; although politically stable, its population has grown rapidly in recent years, with over one million migrants fleeing conflict in neighbouring areas. The region's power deficit is exacerbated by its limited capacity to capture and pipe its considerable natural gas resource to customers. The 875MW Zakho Power Project will maximise the use of KRI's natural gas, supplying vital power to a large population.

The principal private investor in the Zakho project is Unit NV of Turkey. ICF-DP has committed to loan \$50m as part of a syndicate which also includes World Bank Group's IFC, enabling the project, which could not otherwise attract commercial financing, to go ahead.

The Kurdistan Regional Government (KRG) has plans to build an extensive transmission network which will eventually allow KRI to become a power hub for the region; stimulating economic growth and generating foreign earnings from fuel exports.

Turkey HKA

Managing municipal waste and developing an innovative organo-mineral fertiliser business

The Government of Turkey is working to meet EU regulations on safe and sustainable waste disposal. HKA is the country's first private solid waste management company, separating organic and inorganic municipal solid waste (MSW), reducing landfill and driving down methane emissions. The ICF-DP loan will support the construction phase of integrated waste management facilities across four municipalities, inclusive of MSW collection, sorting, and processing. For disposal of residues, the project will build a new 480,000-tonne sanitary landfill in the municipality of Bilecik.

Using the organic waste, HKA will produce a competitively-priced organo-mineral fertiliser. The project will also add 5MW of installed biogas power generation to the national grid and will facilitate recycling of appropriate products.

Designed to be financially self-sustaining, HKA will sell the fertiliser, power and other products it produces.

The new organo-mineral fertiliser is designed for Turkish soils and has been proven to be superior to others on the market. HKA hopes to widen the use of its locally-produced soil-enriching product to maximise yields and incomes for smallholders and farmers. The product will reduce Turkey's dependence on fertiliser imports and, due to its organic matter content, will prevent ground-water pollution by enabling plants to utilise nearly all of the chemical elements it contains.

The project is currently being certified against The Gold Standard, an international standard for high-quality emissions reductions projects established as part of the Clean Development Mechanism.



Investing equity at financial close to boost development impact

In the countries where PIDG works there is major unmet need for equity and mezzanine finance for 'greenfield' infrastructure investments at financial close

Private equity funds do not show appetite for 'greenfield' investments in PIDG countries at least until projects have completed construction and been operational for a period. DFI appetite is similarly limited, although DFIs are much more willing than previously to offer senior debt. Evidence suggests that major (corporate) private sponsors tend to prioritise larger investments in middle-income countries.

Conversely smaller, domestic sponsors often have the appetite and some equity capital to invest but are unable to raise the balance of the equity needed to reach financial close.

Because the necessary equity cannot be secured many, greenfield infrastructure projects currently go unbuilt. However, a proportion of these may be suitable for investment by PIDG because they have sufficient potential to create high development impact and to be commercially sustainable.

Green Africa Power (GAP), PIDG's newest Facility, currently developing its pipeline, can invest quasi-equity (intermediate capital/mezzanine) in renewable energy projects in sub-Saharan Africa.

Separately, InfraCo Africa¹ and InfraCo Asia² each have limited, specific equity investment capabilities, InfraCo Asia's via InfraCo Asia Investments.

In 2016 it is expected that PIDG will consolidate its existing equity capabilities and funds into a new equity and mezzanine Facility for sub-Saharan Africa and south and south-east Asia. This Facility will be empowered to invest beyond PIDG's immediate early stage development pipeline where investments can be shown to be sufficiently additional.

- InfraCo Africa** To support innovative or pioneering projects, InfraCo Africa can provide the capital required to fund the first 'demonstration' or pilot phase. Under exceptional circumstances, InfraCo Africa can also retain its interest in a project through financial close where that project requires ongoing support to become operational, demonstrate commercial viability and so attract further investment.
- InfraCo Asia Investments** This takes the form of equity and mezzanine financing mandated to address market failures in the supply of capital to early stage infrastructure projects. If an absence of capital is likely to delay or even prevent financial close, construction and completion of viable infrastructure projects, InfraCo Asia Investment's funds can be invested to bridge the gap.

Green Africa Power (GAP)

Providing intermediate capital/mezzanine financing for renewable energy power generation projects in sub-Saharan Africa

At a glance

Established	2013, Operational Q4 of 2014
PIDG Members currently funding	DFID, DECC, Norway MFA
Cumulative PIDG Member funding	\$20.2m
	In addition DFID and DECC have put in place promissory notes totalling GBP31.5m
Chair	Jim Cohen
Managed by	EISER supported by Camco

Achievements in 2015

PIDG's newest Facility GAP became operational in late 2014. During 2015 GAP considered a number of possible large-scale investments which were reasonably well-advanced but could not reach financial close without PIDG's involvement.

Other notable highlights

During 2015 GAP substantially progressed a geothermal project in East Africa although this deal has not yet reached financial close. Geothermal power is a relatively new sector where the level of proven resource needs to be comparatively high before projects will attract private sector investment. GAP has been working to establish the required regulatory frameworks to progress exploratory drilling which, to date, has successfully attracted a robust selection of senior debt.

2016 and Beyond

Intermediate capital/mezzanine finance falls between equity and senior debt; GAP has found its investments to be chiefly required at the equity

end of this spectrum, which comes earlier in a project financing. It intends to continue to pursue renewable energy power projects which require intermediate capital and specific construction-phase finance to progress.

Progressing large-scale on-grid renewable energy solutions in sub-Saharan Africa presents complex challenges which can result in delays to project pipelines. In particular, unstable national grids often require strengthening to accept new power generation, particularly fluctuating solar and wind power. GAP has the capacity to incorporate improved grid infrastructure as part of its larger scale projects and will pursue this area.

Alongside large-scale on-grid initiatives, GAP is interested in pursuing opportunities for smaller scale renewables, predominantly solar power generation, for light industry, farming facilities and small-scale mining.

Solar power generation is increasingly attracting private sector investment and GAP's work will therefore focus on the additionality which can be brought to solar projects in PIDG's more challenging markets in sub-Saharan Africa.

InfraCo Asia Investments

Providing equity and mezzanine financing for infrastructure projects in south and south-east Asia

At a glance

Established	2014
PIDG Members currently funding	DFID
Cumulative PIDG Member funding	\$26.9m
Chair	Keith Palmer
Managed by	InfraCo Asia
Total commitments at 31 Dec 2015	\$31m to 3 projects that have reached financial close
2015 commitments	\$9.3m on 1 project

For expected development impact see table on p66

Achievements in 2015

To date, InfraCo Asia Investments has worked with its sister Facility InfraCo Asia Development to bring three of the latter's projects to financial close. In each case, these projects had secured all the necessary permits and approvals, were well-structured with all commercial arrangements in place and had successfully raised the required debt financing, but faced an equity gap – a gap in the investment needed to reach financial close.

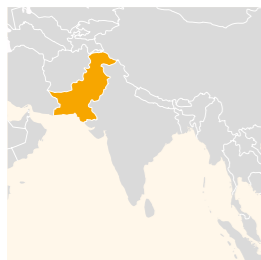
One of these, Pakistan's Gul Ahmed, a wind power project, reached financial close this year. The case study below explains how InfraCo Asia Investments complemented InfraCo Asia Development's role to deliver Gull Ahmed.

Projects that reached financial close in 2015

Pakistan Gul Ahmed Wind Power


Pakistan Gul Ahmed

Delivering sustainable energy to Pakistan's national grid, diversifying the country's energy mix and bringing down costs for business and domestic users




Technology
50MW wind power generation


Total investment
\$132m


Number of people benefitting
354,000

Context:

Pakistan has identified a shortfall of more than 5,000MW in its power generation capacity. With demand increasing, urban customers can lose power for up to 10 hours per day, rising to 18 hours in rural areas. Recent studies suggest that the impact on business and industry in Pakistan is equivalent to a loss of around 2% of the country's annual GDP. Although the Government of Pakistan (GoP) has succeeded in developing an enabling environment for private sector involvement in the energy sector, the country remains reliant upon expensive, polluting oil and diesel power plants. The GoP is keen to explore the country's renewable energy resource to expand capacity and provide customers with affordable, sustainable power.

Project

The Gul Ahmed Wind Power Project (Gul Ahmed) is located in Jhimpir in Sindh province, Pakistan. The 50MW project lies in the wind corridor that extends up to India. The wind power potential of the region is evidenced by over 2,300MW of installed wind power generation capacity on the Indian side. By delivering secure, renewable power to Pakistan's national grid, Gul Ahmed will increase the country's installed capacity, diversify its energy mix and reduce reliance upon fossil fuel imports.

InfraCo Asia Development was approached to work with the local sponsor Gul Ahmed Energy who had faced challenges in creating an internationally acceptable structure to secure the project's financing. Additionally, Gul Ahmed struggled to attract private sector support due to high power sector debt, economic, political and security issues in Pakistan. InfraCo Asia Development initiated and led discussions with multilaterals, DFIs and commercial banks, supported project structuring and the preparation of bankable documentation. This enabled Gul Ahmed to raise the required debt finance for financial close in Q1 2015.

Additional equity finance was required and InfraCo Asia Investments supplied a bridge investment, funding the balance of equity necessary to achieve full financial close. InfraCo Asia's participation addressed a critical shortfall in development expertise and capital and a shortfall in the supply of capital which would otherwise have delayed or even prevented financial close of a viable project

InfraCo Asia Development funded \$7.9m at the development stage of the project, while InfraCo Asia Investments committed \$9.3m, of which \$7m has been invested at financial close while the balance is contingent funding commitment required by the project lenders. Together, this mobilised an additional \$119.4m of investment.

Impact

By delivering a clean, secure source of additional energy to Pakistan's national grid, Gul Ahmed will provide more people in more regions with reliable, sustainable energy to support economic growth and social development. Gul Ahmed will reduce Pakistan's reliance upon expensive fuel imports, with electricity from the facility priced at 14-16 cents per kWh compared to 20-25 cents per kWh for oil and diesel generation. In addition, the project will cut Pakistan's carbon emissions by 93,800 tonnes per annum. The project has significant scope for replication, promoting future involvement of the private sector in developing Pakistan's renewable energy potential.

In developing this project, InfraCo Asia and its partners ensured the project accommodated existing settlements in the wind corridor to prevent the need for resettlement and to minimise shade and noise impact. In addition, InfraCo Asia and the partners provided additional services to local communities. It created potable water supply and constructed a local school where, for the first time, girls and boys are being educated in the same classrooms.

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