



Infrastructure & Cities for Economic Development

*The use of donor capital to catalyse investment
in infrastructure*

Executive Summary

Produced for: DFID
Version: Final
Date: October 2018



Executive Summary

Purpose and objective of this casebook

This casebook presents examples of the use made by DFID and other donors of capital investment in infrastructure and related sectors. The casebook was prepared by the Infrastructure and Cities for Economic Development (ICED) Facility of DFID.

The primary objective of the casebook is to provide clear and concise information as to how development finance has been used to catalyse private sector capital to fund infrastructure and related sectors in developing and transitional economies. The use of investment capital in this manner is required in order to bridge the significant and growing development finance gap estimated to currently stand at USD 2.5 trillion in developing countries, with much of this financing gap specifically relating to infrastructure. The existence and persistence of this gap severely constrains the growth of many developing and transitional economies.

The Sustainable Development Goals (SDGs) have highlighted the urgent need to address the development finance gap and to increase investment for development by an order of magnitude, moving from “billions to trillions”. Estimates indicate that only around 10 percent of current infrastructure investments come from the private sector.¹

The infrastructure funds considered in this report are set out in Table 1 below. This is not intended to be exhaustive, and the funds selected for this report were chosen to identify lessons from a cross-section of different fund structures and investors, both within the UK and internationally. All of the funds have an emerging and / or developing market investment focus. This represents only a small sample of the infrastructure funds launched with public sector backing. A list of the other funds considered as part of the scoping for this report is included in Annex 3 to the full report.

Infrastructure investment initiatives founded on public capital such as those considered in this casebook offer the potential to mobilise private sector investment at scale. It is therefore important to understand examples of where public funds have been used effectively to catalyse private sector investment, while minimising subsidies and maximising VfM where possible.

Public capital for development – its use and importance

Donors have traditionally deployed capital investment in three main ways:

1. Through **direct investment** into capital assets;
2. Through the creation of **investment funds**, which in turn invest into capital assets; and,
3. Through creation of **fund of funds**, which invest into intermediary funds that invest into underlying assets.

The use of capital investment by donor agencies to complement grant-based financing of traditional aid programmes has four main advantages. This type of investment can:

1. **Leverage private sector investment** alongside the public investment;
2. **Have a pronounced market demonstration effect**, signifying to the private sector that investment in a given asset can be viable and thus overcoming market risk aversion and private sector perceptions of particular asset classes in developing and transitional economies;
3. **Result in the recycling of public sector capital** so that it can re-invested multiple times, creating multiplier effects; and,
4. **Create robust and sustainable vehicles for investment in infrastructure**, making capital available that otherwise would not be accessible.

¹ <http://www.undp.org/content/undp/en/home/blog/2017/7/13/What-kind-of-blender-do-we-need-to-finance-the-SDGs-.html>

Capital investment vehicles are growing both in number and in scale. For the UK Government, long-standing capital initiatives such as CDC and the Private Infrastructure Development Group (PIDG) are now accompanied by several newer funds (e.g., Asia Climate Partners, Global Climate Partnership Fund).

Public capital investments looking to mobilise private sector capital can be structured in multiple ways, resulting in differing outcomes for private and public sector investors. This casebook considers a range of structures, covering both equity and debt funds. Some consideration of the use of public sector guarantees is also included.

A central theme across the study is the extent of subsidy / concessional finance required to mobilise private sector capital. It draws out some of the lessons learnt from the cases considered. It also proposes some VfM considerations which are specific to this type of approach. These should be consulted alongside to DFID's standard frameworks, which encompass economy, efficiency, effectiveness, equity and sustainability.

In some of these funds and facilities the donor takes a subordinated position, whereby the private sector receives returns in preference to the public sector (preferred return), and/or where any losses are allocated first to the public sector in order to protect the private sector's investment (first loss). Other funds and facilities work, however, on a *pari passu* basis where all losses and returns are shared equally between the investors, be they public or private.

Mobilising private sector investment

This study examines seven case studies of infrastructure investment funds, and the use of public capital to mobilise private investment. Each case study details the different way each fund was designed, structured and operationalised. The case studies look at how successful the use of public capital and VfM was in each case in mobilising private sector investment, as well as limiting the use of concessionality to have a greater focus on less well-established investment opportunities.

Table 1 summarises the waterfall / return structure for each fund, as well as the ratio of private to public capital invested. However, as described in this report, each of the funds have a different investment mandate and investment structure. Consequently, the ratio of public to private capital invested is not necessarily directly comparable, the table is intended as a high-level summary of the key features for each fund only.

Table 1. Fund vintage compared with varied return structure and ratio of private sector capital leveraged

Fund	Fund vintage	Waterfall / Return structure	Leverage ratio (public:private)	Investment focus
EAIF	2002	Low cost of donor capital + commercial debt	1:0.2	Hard currency debt on longer tenors
GEEREF	2008	First loss guarantee + varied equity returns	1:0.9	Fund of funds focused on renewable energy
GCPF	2011	First loss guarantee + varied equity returns	1:0.4	Debt financing in energy, largely through financial institutions
IFC Catalyst Fund	2012	<i>Pari passu</i>	1:1.7	Predominantly fund of funds investor in renewable energy
DCIF	2012	Losses shared equally + premium to state on returns >12%	1:1.9	Predominantly direct equity financing in renewable energy, with some mezzanine debt

Fund	Fund vintage	Waterfall / Return structure	Leverage ratio (public:private)	Investment focus
ACP	2014	<i>Pari passu</i>	1:0.6	Predominantly direct equity financing in renewable energy, with some fund of funds
MCPPI	2016	First loss + guarantee from Sida on loans meeting Swedish ODA priorities	1:10	Debt portfolios based on IFC-originated B loans

Many funds have their own methodology to calculate the amount of private sector capital mobilised for each fund. For simplicity, the ‘leverage ratio’ reported in Table 1, and throughout this report, is based only on the level of public and private capital invested into the top level of each fund structure. The leverage ratio does not include additional capital invested further downstream, such as co-investments in fund of funds or direct investments, and does not include any capital invested in subsequent transactions enabled by the funds.

Based on the investments into the top level of the fund structure, the IFC’s Managed Co-Lending Portfolio Programme Infrastructure (MCPPI), has successfully raised \$1.5bn of private capital, based on a 10% first loss provision of \$150m (leading to a leverage ratio of 1:10). For those loans which meet the Swedish priorities for development assistance, SIDA bears this first loss position.

Aside from this return structure, MCPPI has been successful for a number of reasons including the track record of the IFC and the fact that it acts as a syndication platform for underlying IFC loans offering access to a new asset class.

The Danish Climate Investment Fund (DCIF) was also particularly effective at leveraging additional private sector investment per USD of public investment as compared to the other funds considered (1:1.9 leverage ratio of public:private). The IFC Catalyst Fund and ACP demonstrate that it is also possible to attract private investment without a varied return structure, with the IFC Catalyst Fund generating a leverage ratio of 1:1.7, greater than that of some of the funds offering a varied return structure, such as GEEREF (leverage ratio of 1:0.9).

There also appears to be a trend of increasing private to public capital ratios over time; and those funds who were considering a ‘Phase 2’ fund expressed a desire to reach more ambitious ratios second time around.

However, as set out below, this study identified a number of key considerations which may help to increase the VfM through reducing the level of concessionality offered in future funds, which would allow subsidised capital to be prioritised towards higher risk markets.

Issues and challenges in design and operationalisation of public capital investments

The rationale for the varying return structures across the funds and facilities differs, however there are a number of lessons and considerations relevant for the design of future capital investments. These include:

Mobilising investment in infrastructure

- In the case studies considered here, **development capital has been a catalyst for private sector investment**. The focus on crowding in capital, particularly equity capital, into renewable energy and energy efficiency has however resulted in some cases in competition for a limited number of investment opportunities; this risks actually crowding out private sector capital. The need for further donor capital under the same conditions may, therefore, be limited

- Linked to this, **donor capital platforms are heavily skewed towards climate finance**, in particular renewable energy and energy efficiency. Capital could valuably be deployed in a number of other infrastructure sectors where private and institutional investment is less well established. Donors should conduct a review of opportunities to employ these approaches across other sectors such as such as infrastructure for health, education or low-cost housing. Refinancing facilities may also be valuable
- **Economic analysis to support first loss positions does not seem common practice. Greater investor engagement and sharing performance data can help fundraising efforts.** Significant market appetite testing is required before a donor can assert with confidence that concessional finance is needed. Investors vary greatly and further investment in investor outreach may prove better value for money in the long-term than increasing the concessionality of the offer. Private sector investors should be consulted in the design phase to establish risk and investment appetite and return expectations. Other interventions such as greater access to data to illustrate the performance of investment data could also support effective consultations with investors
- **Restricting the investment mandate of the fund to requiring some form of domestic economic interest can be successful** in sectors where the domestic market is strong but, where the domestic market is also developing, it can constrain the ability of the fund to invest
- **Rating agencies have pre-developed methodologies for determining a credit rating which may not be suited to appropriately assessing private sector risk** within a blended finance vehicle. Donors should engage with rating agencies to understand better their approach to these vehicles, and give thought to possible solutions that could enhance their credit ratings
- **Capital investment platforms are not the only way to use innovative donor finance to correct market failures.** Subsidised hedging facilities, guarantee facilities, and project preparation facilities may be more appropriate in some sectors or geographies. For PPPs, off-taker funds that provide guaranteed revenue to the PPP vehicle may be more appropriate
- **Need for subsidy in renewable energy and energy efficient infrastructure investments in particular, appears to be decreasing over time.** Since the establishment of GEEREF in 2008, both the IFC Catalyst Fund and ACP have been successful in raising private investment for renewable energy and energy efficient assets on a *pari passu* basis. GCPF also demonstrates that there is stronger demand for higher risk investment from the private sector. The need for subsidy in these sectors in particular geographies, may therefore be called into question moving forward

Structure

- **Overly complex return structures can deter the private sector.** New investors look for familiarity and simplicity. Considerable time was spent during fundraising for those with more complex return structures. Additional consultation on fund structures which are more easily understandable by investors may accelerate launches of new funds and fundraising
- **Significant market appetite testing and economic analysis must be present and clearly translated into fundraising ambitions and any offer of concessionality.** It requires significant market appetite testing before a donor can assert with confidence that subsidy or concessional finance is needed. In cases where investors have been engaged in the design of the fund, this has contributed to improved leverage of private sector investment per USD of public contribution. Investors vary greatly and further investment in investor outreach may prove better value for money in the long-term than increasing the concessionality of the offer. This outreach should be prioritised at the design stage
- **Investment vehicle lifetimes need to be matched to the underlying investments.** Investment timeframes required for infrastructure projects in developing countries are long.

Restricted fund lifetimes encourage private sector investment and a specified end date may force progress, but may equally restrict the ability of the fund to achieve maximum development impact. Improving the secondary markets for infrastructure and / or innovative timeframes may be required – for example, 20 year funds

- **Long set-up times increase total lifecycle costs.** The time required for establishment of these capital investment platforms has been significant. Long timeframes increase total lifecycle costs, increase the risk that market conditions have changed since design, and may deter private sector investors. Drawing on existing models could expedite this process by reducing the need to familiarise key decision makers with novel structures
- **The tax jurisdiction of the investment vehicle is important.** Different donors, multilateral investors and private investors will have different restrictions on where they can place their money. This includes both ‘hard’ rules and ‘soft’ considerations of reputational risk. These should be well understood before registering the fund

Governance

- **Separation between donor involvement in governance, remuneration, investment mandate and quality standards and individual investment decisions is required.** Typically, donor representation is restricted to the overall governing body, and is separate to the Investment Committee. In addition, a separate Advisory Committee can be established during the design phase to enable private sector investors to have a voice in design and approach. That said, donors are usually permitted to participate in annual meetings and Limited Partner meetings in their capacity as investors or shareholders

Fund Manager arrangements

- **The reputation and track record of the Fund Manager is critical**, both at firm level and of specific personnel. Lack of track record of the consortium of fund managers, and of specific individuals, can impact ability to achieve fundraising targets. For this reason, an effective procurement process, which garners a meaningful number of competitive bids, is important to ensure that donors do not have to choose between price/willingness and track record
- **In the absence of a track record, the investment vehicle may need to create its own** with purely public funds before looking to the private market. However, fund managers with a mandate which is not purely commercial, may risk further deterring investors
- **Holistic remuneration structures should be used to incentivise both financial and development impact.** Public sector actors should recognise however that private investors may have concerns about how non-financial approaches to incentives may cloud commercial judgments
- **Development impact reporting is often unfamiliar to private sector fund managers** and may be seen as a burden. Where the funds are required to report to public investors on non-financial performance, this was consistently quoted as an issue, particularly where investment is devolved through fund of funds structures. Streamlining it and where possible adopting pre-existing global standards or protocols are ways to reduce this burden and encourage aid coherence

Stylised modelling of distribution of returns to the public and private sector

Finally, whilst further economic analysis would be required to place a meaningful value on the total cost of the subsidy provided by the public sector in each example, this casebook takes two examples, and models the return on investment (expressed as a percentage) that accrues to the public and private sectors respectively based on a range of possible overall fund outcomes, taking into account the differing return structures.

The graphs are simplistic, subject to a number of limitations and should be considered illustrative only. In particular the graphs do not necessarily take into account that some return scenarios are more likely than others.² However, they give an idea of how the choices in structure can play out in practice and the possible scale of the subsidy given by the public sector.

Figure 1. Illustration of junior return position across a range of investment outcomes - annualised returns, Fund Example 1

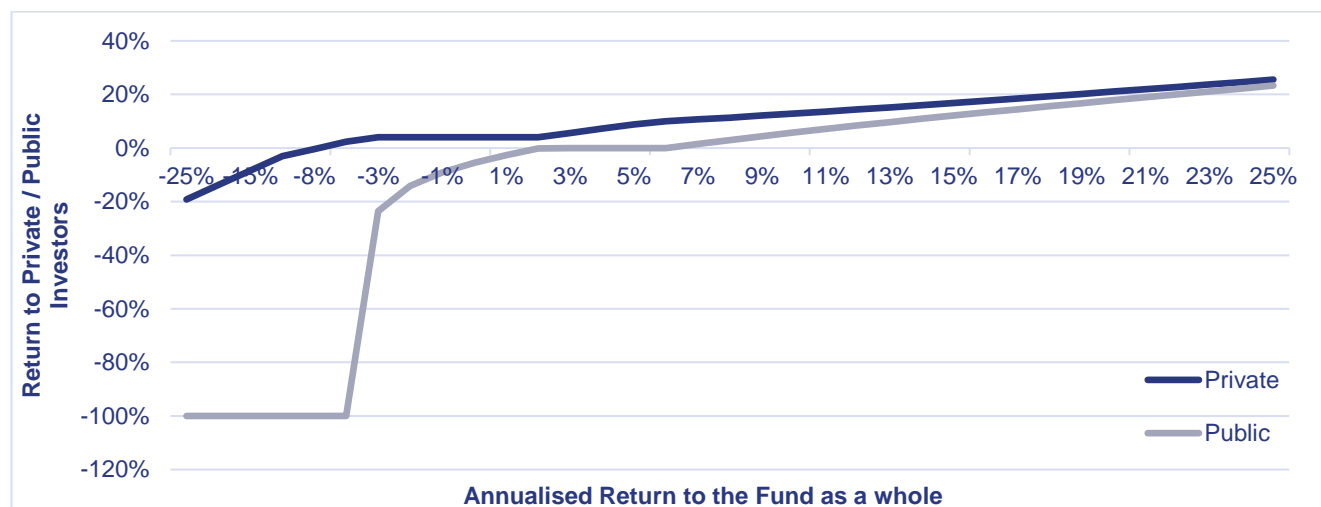
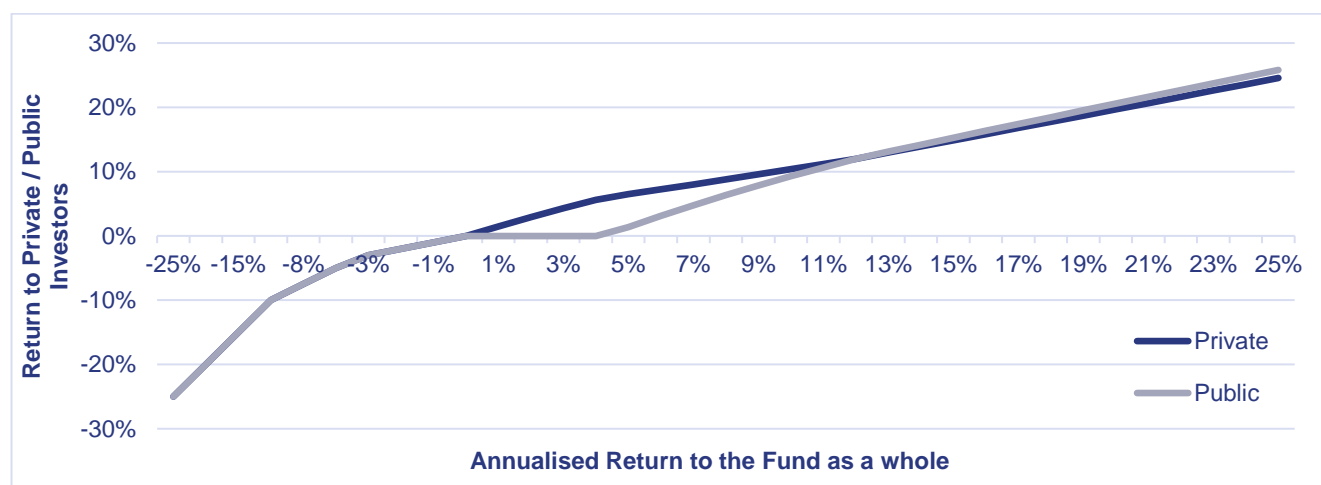


Figure 2. Illustration of junior return position across a range of investment outcomes - annualised returns, Fund Example 2



Whilst Figure 1 demonstrates that Fund Example 1 has given the public sector a sizeable downside risk, but no upside risk relative to the private sector, Figure 2 shows that Fund Example 2 allocates a small upside premium to the public sector, which offsets (in a loose sense) the greater risk that the public sector takes at lower rates of return.

Factors which may justify higher discrepancies between the return profile of the public / private investors, for example, would include:

- More limited/concentrated sectoral/geographical focus. The current focus of the funds considered in this study is heavily skewed toward climate finance. ACP and IFC Catalyst Fund have demonstrated that it is possible to raise private capital for climate finance initiatives without public subsidy / concessional finance. This may suggest that subsidy is not required, or required on a lesser scale moving forward for funds with a similar focus to ACP and the IFC Catalyst Fund

² In addition the graphs have not been developed with reference to any source documentation in terms of the fund's commercial agreements, does not factor in any consideration of foreign exchange or inflation, assumes a fixed 10-year investment period with perfectly even returns year on year, etc.

- More limited/concentrated investment portfolio (e.g. a fund of funds which is more diversified should have a lower risk portfolio than a fund)
- A greater equity mandate than debt mandate as equity carries higher risk and therefore a public equity tranche may be required to de-risk the private sector tranche to a level attractive for investment
- An explicit higher risk tolerance in terms of onward investment transactions, including local currency transactions
- Engagement from the private sector in a market or product in which they are not currently invested where the cost of being a 'first mover' is currently seen as a barrier to investment

The above factors could therefore be incorporated into a future analytical framework for identifying the optimum way to structure new funds, in a way that maximises fundraising effectiveness, minimises use of concessional capital and allows subsidised capital to be prioritised towards funds focused on higher risk and more nascent markets. This could be complemented by scenario-based modelling of public-private return outcomes similar to that described above to identify and evaluate the different return outcomes likely for a new fund.

Annex – Longlist of investments³

Investment title	Basis of donor investment into fund / facility	Investor(s)	HMG Department	Fund / vehicle total investment capacity	Geography	Type of investment provided	Technical assistance facility	Investment focus
IFC Catalyst Fund	Pari passu	State Oil Fund of the Republic of Azerbaijan (SOFAZ) IFC UK government Canadian Government Norwegian Government Japan Bank for International Cooperation Private investors	DFID BEIS	\$418m	Global	Fund of funds	SCAF	Renewable energy Resource-efficient, low-carbon product and service development
Asia Climate Partners	Pari passu	UK government ADB ORIX Robeco	DFID BEIS	\$750m	Asia-Pacific	Project investment	SCAF	Clean energy Resource efficiency Environmental sector
Global Climate Partnership Fund	First loss	Germany BMUB KfW Dandia BEIS IFC OeEB FMO Private investors	BEIS	\$305m	Global	Debt financing through local institutions or directly at project level	Technical assistance facility	Energy efficiency Renewable energy

³ Information presented here is based on research of publically available information as of April 2018

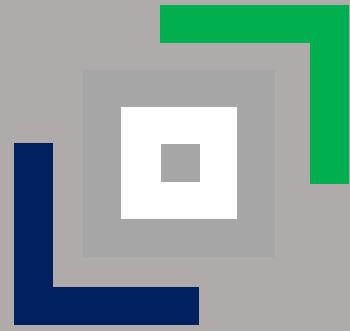
Investment title	Basis of donor investment into fund / facility	Investor(s)	HMG Department	Fund / vehicle total investment capacity	Geography	Type of investment provided	Technical assistance facility	Investment focus
Climate Investor One	First loss (not invested)	Ministry of Foreign Affairs, Netherlands FMO USAID Aegon NWB Bank Sanlam	n/a	\$455m	Global	Multiple funds at different stages of project development - concessionality approach dependent on Fund through which investment is undertaken	Technical assistance provided through the Development Fund through non-returnable grants for up to 50% of project development costs.	Solar photovoltaic, wind and run-of-river hydro renewable energy projects with capacity of 25-75MW
Global Parametrics Natural Disaster Fund	Interest free capital commitment	DFID KfW	DFID	Aiming to raise \$200m over next three years	Global	Parametric insurance products	Technical assistance facility envisaged	Disaster risk insurance
India-UK Partnership Fund (Green Growth Equity Fund)	Pari passu	DFID Government of India Private investment	DFID	£500m (\$704m)	India	Project investment	Technical assistance facility proposed in scoping study	Renewable energy Energy transmission / distribution Clean transportation / water treatment / waste management Other clean energy sectors

Investment title	Basis of donor investment into fund / facility	Investor(s)	HMG Department	Fund / vehicle total investment capacity	Geography	Type of investment provided	Technical assistance facility	Investment focus
Emerging Africa Infrastructure Fund	Pari passu	<i>PIDG:</i> KfW FMO SBSA Standard Chartered Allianz	DFID	\$862m	Africa	Debt financing at project level	Access to PIDG technical assistance facility	Infrastructure
InfraCo Asia	<i>Unknown</i>	<i>PIDG:</i> DFID SECO DFAT	DFID	\$316m (total investment committed)	Asia	Facility	Access to PIDG technical assistance facility	Infrastructure
InfraCo Africa	<i>Unknown</i>	<i>PIDG:</i> DFID DGIS SECO ADA	DFID	\$171m	Africa	Facility	Access to PIDG technical assistance facility	Infrastructure
GEEREF (Global Energy Efficiency and Renewable Energy Fund)	First loss	Private EU German Government Norwegian Government	n/a	EUR 222m (\$274m)	Global	Fund of funds	Technical assistance facility (Regional Fund Support Facility)	Energy efficiency Renewable energy

Investment title	Basis of donor investment into fund / facility	Investor(s)	HMG Department	Fund / vehicle total investment capacity	Geography	Type of investment provided	Technical assistance facility	Investment focus
Renewable Energy Asia Fund (REAF) II	Pari passu	SIFEM FMO IFC Catalyst Fund IFC GEEREF Oikocredit	DFID via IFC Catalyst Fund	\$250m target fund size	Philippines India Indonesia	Project investment	None apparent	Renewable energy
Africa Renewable Energy Fund (AREF)	Subordinated tranche with capped return	AfDB CDC GEEREF EIB GEF Sustainable Energy for Africa West African Development Bank Ecowas Bank for Investment and Development FMO Calvert Investments BIO-Invest OeEB	DFID via CDC	\$200m	Sub-Saharan Africa	Project investment	None apparent	Small hydro Wind Geothermal Solar Stranded gas and biomass
Pan-African Infrastructure Development Fund (PAIDF)	Pari passu	AfDB Private investors	n/a	\$1bn target capital	Africa	Project investment	None apparent	Power Transport Water and sanitation Information and Communication

Investment title	Basis of donor investment into fund / facility	Investor(s)	HMG Department	Fund / vehicle total investment capacity	Geography	Type of investment provided	Technical assistance facility	Investment focus
								Technologies (ICT) Healthcare infrastructure
Facility for Energy Inclusion	First loss shares considered - structure not yet completed	AfDB (seed capital)	n/a	\$500m target capital	Africa	Senior and mezzanine debt	None apparent	Renewable energy
InfraCredit Nigeria (a GuarantCo vehicle)	TBC	DFID SIDA FDEA DFAT Ministry of Foreign Affairs, Netherlands FMO PIDG	DFID	\$327m portfolio (end 2016)	Global	Debt guarantees Partial debt guarantees	Access to PIDG technical assistance facility	Infrastructure
IFC Managed Co-Lending Portfolio Programme for Infrastructure	First loss	IFC SIDA	n/a	\$1.5-2bn target capital	Global	Debt fund - first loss and first loss guarantee	None apparent	Infrastructure
IDFC India Infrastructure Fund II	Pari passu	CDC IDFC Ltd Private Investors - Citigroup Inc.(Citi) and India Infrastructure	DFID	\$900m	India	Project investment	None apparent	Infrastructure

Investment title	Basis of donor investment into fund / facility	Investor(s)	HMG Department	Fund / vehicle total investment capacity	Geography	Type of investment provided	Technical assistance facility	Investment focus	
		Finance Company Limited (IIFCL)							
Danida Business Finance	Soft loans – cash grants to increase loan size and cover interest, export credit premiums and margins	Investment Developing Countries (IFU) (Danida)	Fund for Countries	n/a	DKK4bn (\$66m)	Global	Subsidised debt	Technical assistance on the terms of the subsidy and ongoing monitoring requirements	Infrastructure
Danish Climate Investment Fund	First loss	Investment Developing Countries (IFU) Private investors	Fund for Countries	n/a	\$220m	Global	Concessional equity and mezzanine debt	Danish Project Support Programme	Greenhouse gas reduction and climate change adaptation



Disclaimer

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