

# PE2 Private Finance

Appendix

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# 1 Programme documents reviewed

**Table 1:** Programme documents reviewed

Programme	Documents reviewed					
	BC	AR	LF	PCR	Evaluation	KPI15
Carbon Market Finance for Africa (CMF-Africa)	Y	Y	Y		Y	
Climate Investment Fund (CTF)	Y	Y	Y		Y	
Climate Public Private Partnership Programme (CP3)	Y	Y	Y		Y	Y
Climatescope	Y	Y	Y			
Comprehensive Programme on Spatial Planning and Low Carbon Development in Papua	Y	Y	Y	Y		
East Africa Geothermal Energy (EA-Geo)	Y	Y	Y		Y	
Eco.business Fund	Y					
Global Climate Partnership Fund (GCPF)	Y	Y	Y		Y	Y
Global Innovation Lab for Climate Finance (The Lab)	Y	Y	Y			Y
Green Africa Power (GAP): Renewable Energy for Africa	Y	Y	Y	Y		
Low Carbon GET FIT Uganda	Y	Y	Y			Y
NAMA Facility	Y	Y	Y		Y	Y
Partnership for Forests (P4F)	Y	Y	Y			Y
Promoting Low Carbon Development with returnable capital in Indonesia	Y	Y	Y	Y		
Renewable Energy and Adaptation Climate Technologies (REACT)	Y	Y	Y			
Renewable Energy Performance Platform (REPP)	Y	Y	Y			Y
Results Based Financing for Low Carbon Energy Access	Y	Y	Y		Y	
Solar Nigeria Programme (SNP)	Y	Y	Y			
Strengthening Adaptation and Resilience to Climate Change in Kenya Plus (StARCK+)	Y	Y	Y			
UK Climate Investments (UKCI)	Y	Y	Y		Y	

## 2 Non-programme documents reviewed

**Table 2:** Non-programme documents reviewed

Title	Publication date	Author	Organisation
Methodologies to measure amounts mobilised from the private sector by official development finance interventions	2015	Julia Benn, Cécile Sangaré	Organisation for Economic Co-operation and Development (OECD) Development Assistance Committee (DAC)
Amounts mobilised from the private sector by official development finance interventions: Guarantees, syndicated loans, shares in collective investment vehicles, direct investment in companies and credit lines (FINAL REPORT)	2017	Julia Benn, Cécile Sangaré, Tomáš Hos	OECD
What counts: Tools to help define and understand progress towards the \$100 billion climate finance commitment	August 2015	Paul Bodnar, Jessica Brown, Smita Nakhooda	Climate Policy Initiative (CPI) World Resources Institute (WRI) Overseas Development Institute (ODI)
IFC demonstration effects study: Report to the International Finance Corporation	January 2013	Castalia Strategic Advisors	International Finance Corporation (IFC)
Independent evaluation of IFC's development results 2008: IFC's additionality in supporting private sector development	2008	Dan Crabtree, <i>et al.</i>	Independent Evaluation Group (IEG) International Finance Corporation (IFC)
The European renewable energy investor landscape	2014	Global Capital Finance, Clean Energy Pipeline	Global Capital Finance
Leveraging <sup>1</sup> private sector finance: How does it work and what are the risks?	April 2012	Jesse Griffiths	Bretton Woods Project
Estimating mobilised private climate finance: methodological approaches, options and trade-offs	2015	Raphaël Jachnik, Randy Caruso, Aman Srivastava	OECD WRI
Private finance for climate action: Estimating the effects of public interventions (Policy Perspectives)	November 2017	Raphaël Jachnik, Lauren Mccoll	OECD
Evaluation of the Carbon Market Finance Programme (CMFP): First evaluation report	July 2018	LTS International Limited, Ecofys	BEIS

UK Working Paper: A project level approach to forecast and monitor private climate finance mobilised	September 2012	Stephanie Ockenden, Gail Warrander, Rosalyn Eales, Daisy Streatfeild	Department of Energy and Climate Change (DECC) Department for International Development (DFID)
The role and impact of the EIB and GIB on UK infrastructure investment	May 2018	Vivid Economics	National Infrastructure Commission
De-risking renewable energy investment: A framework to support policymakers in selecting public instruments to promote renewable energy investment in developing countries	2013	Oliver Waissbein, Yannick Glemarec, Hande Bayraktar, Tobias. S. Schmidt	United Nations Development Programme (UNDP)
Multilateral Development Bank principles to support sustainable private sector operations	April 2012	-	Multilateral Development Bank (MDB)
Private sector roundtable: DFI guidance for using investment concessional finance in private sector operations	April 2013	-	Development Finance Institutions (DFI)
Joint statement on tracking progress towards the \$100 billion goal	September 2015	-	Multi-countries joint statement
Global landscape of climate finance 2017: Methodology	2017	-	CIF
CIF evaluation and learning initiative	2018	-	CIF
DAC methodologies to measure the amounts mobilised from the private sector: Guarantees, syndicated loans, shares in collective investment vehicles, direct investment in companies, credit lines	2018	-	DAC OECD
Methodologies to measure amounts mobilised from the private sector	2016	-	-
Annex 1: Descriptions of public and public-private climate funds and initiatives	-	-	WRI
Mobilising finance for forests: Strategic Case (v2: Submitted to PIC)	-	-	-
Solar businesses in sub-Saharan Africa	2019	-	Bloomberg NEF
Climatescope clean energy report	2017	-	Bloomberg NEF
International Climate Finance: UK aid for low-carbon development – A performance review	2019	-	Independent Commission for Aid Impact

Clean energy project preparation Facilities: Mapping the global landscape	2018	Darius Nassiry, Sam Pickard, Shelagh Whitley and Andrew Scott	ODI
Common Principles for Climate Mitigation Finance Tracking	-	-	-
DAC Working Party on Development Finance Statistics	2018	-	OECD
Development Finance Institutions and Infrastructure: A Systematic Review of Evidence for Development Additionality	2012	Dr Stephen Spratt and Lily Ryan Collins	Institute of Development Studies & Engineers Against Poverty
Development Impact of DFIs What are their impacts and how are they measured?	2015	Alberto F. Lemma	EPS Peaks, ODI
Global Landscape of Renewable Energy Finance	2018	-	IRENA, CPI
Evaluation of Transformational Change in the Climate Investment Funds	2019	-	Itad, ODI, Consensus Building Institute (CBI)
Evaluation of Transformational Change in the CIF	2019	-	Itad
Evidence Synthesis of Transformational Change in the CIF	2019	-	ODI
Assessment of approaches, methods, and tools for program and project design that facilitate transformational change	2018	-	Asian Development Bank (ADB) and Inter-American Development Bank (IDB)
Building transformative adaptive capacity: Assessing the potential contribution of PPCR to build a climate-resilient water governance framework in Bolivia	2018	-	Inter-American Development Bank (IDB)
Evidence Gap Map and Systematic Review of Transformational Change (literature-based)	2019	-	Center for Evaluation and Development (C4ED), with GCF Independent Evaluation Unit
Evaluation of the Climate Investment Funds' Programmatic Approach: Final Report and Management Response	2018	Jessica Kyle, Detlev Puetz, and John van Mossel	ICF

## 3 Report on DFI interviews

We made initial contact with some DFIs through Compass technical experts. Then, following advice from ESG, we engaged the assistance of Lorenz Jorgensen, former European Bank for Reconstruction and Development (EBRD) employee, to help secure interviews with representatives from syndication, climate change and monitoring and evaluation departments.

We interviewed 14 people from eight DFIs (see section 6.5 for topic guide):

AfDB - African Development Bank

ADB – Asian Development Bank

DEG – Deutsche Investitions- und Entwicklungsgesellschaft

EBRD – European Bank for Reconstruction and Development

FMO –Dutch Development Bank

IDB/IADB – Inter-American Development Bank

IFC – International Finance Corporation

Proparco – Groupe Agence Française de Développement (these two interviews had already taken place before ESG refined the target list of DFIs and removed Proparco).

### Targeting, monitoring and evaluation of demonstration effects

Although most of the DFIs we spoke to had targets for mobilising private finance, none has a specific target to create demonstration effects to achieve this mobilisation. For that reason, there were no monitoring or evaluation systems in place to track demonstration effects, and no interviewees described any system which included targeting demonstration effects for individual investments. In a few DFIs, the system or framework for evaluating and deciding on potential investments does include criteria around creating demonstration effects (even if they are not specifically named as such). One of IFC’s criteria for investment is ‘reinforcing markets’, and the interviewees spoke of demonstration effects in this context. But even where creation of a demonstration effect was part of the investment case, no interviewees talked of having subsequent KPIs targeting this, nor any rigorous follow-through on whether a demonstration effect was actually achieved and if so, in what way and to what extent. Several interviewees spoke of the difficulty they would foresee with attribution and were keen to learn whether any other DFIs had processes which would help with this.

Some interviewees said that because of commercial confidentiality, the DFI is not always aware of the identity of their private co-investors, which would make tracking follow-on projects very hard. However, all interviewees were all very clear that their organisation expected its investments to be catalytic and change the market in some way. One interviewee described this as a ‘signalling effect’ to the market – if the DFI is involved, it is sending a message to the market.

### Additionality

All interviewees stressed that funding from their organisation is also required to be additional, in order to avoid crowding out private finance by offering development finance where it is not absolutely necessary. The OECD DAC Blended Finance Principles state that concessional finance should be deployed only for uses where commercial financing is not currently available. This was expressed by one DFI as: “The deal wouldn’t have happened, or would be different, without [DFI]”. Investments are often not at concessional rates, but concessional could take many forms, including longer-term loans or patient capital. Several interviewees suggested that if a project explicitly set out to create a demonstration effect, this could represent an element of the additionality which would allow the DFI to invest.

Despite this, however, investors and sector experts told us in interviews that they believe development finance quite often crowds out private sector finance. Examples include the Ugandan renewable energy market where

development finance has met a very large proportion of the overall need for investment, effectively excluding private finance. Another example is GCPF, where potential private investors have not invested in follow-on projects because DFIs are offering investment on more favourable terms. One sector expert said: *“If you speak to a bank like [name] they would certainly say that they go heads on with the development banks and would wish to see them more generously giving away more volume of a certain transaction.”*

### **First of a kind**

Most interviewees reported that the investments their organisation makes are very often in some way “first of a kind” or “paving the way”. This means that they may be in a position to create demonstration effects for others to follow - breaking down barriers, reducing the perception of risk and giving comfort (a term used by nearly all interviewees) for future investors, thus encouraging mobilisation of private finance into follow-on projects. If, as was suggested by some interviewees, there is an oversupply of development finance in the market, this ‘pathfinder’ role clearly no longer applies.

The main areas of innovation described are:

- Technology (particularly in renewable energy, but also in adaptation practices).
- Financial structure (especially risk mitigation instruments).
- Legal and regulatory frameworks (often PPAs).
- Emerging/fragile economy, different country/region.

No interviewees were able to provide monitoring and evaluation data on demonstration effects, but there were plenty of anecdotes which evidenced a change in investor behaviour following initial investments by DFIs. These included:

- Former clients not coming back to the original DFI for further investment because they could now secure a better deal on the open market.
- Renewable energy sectors flourishing after a DFI’s involvement had facilitated the first PPA in a country.
- DFI private equity funds showing a reduced level of development finance and higher level of private investment over the course of second and third generation funding rounds.

Several interviewees believed that the capacity to create demonstration effects was much greater in an immature market, where regulation is underdeveloped. In those circumstances, the DFI often helps to set up the enabling environment which encourages future private investment in follow-on projects. Some interviewees talked of holding workshops and/or issuing publications describing the changes which had been made, with the aim of encouraging others to take advantage of the improved environment.

### **Badge of credibility**

Nearly all interviewees talked, unprompted, about the ‘badge of credibility’ – also named ‘stamp of approval’ or ‘stamp of quality’ - which they believe that their organisation’s involvement brings to a project, particularly one which is first of a kind. Interviewees described this as working in two ways:

- One, that the DFIs’ involvement gives investors an intangible comfort in the viability of the project – “If the DFI thinks it’s a good investment, it must be OK”. This appears to be more effective at institutional investor level, less so for direct investors, but many investors we interviewed did view DFIs and other large investors as credible.
- Two, that the DFI’s due diligence process provides a trustworthy shortcut and money saving service for other investors – several interviewees talked of their organisation’s due diligence having a high reputation for robustness on which other investors are happy to rely. Our interviews with investors provided evidence to support the high reputation, but all investors would conduct their own due diligence anyway. The involvement of a DFI may, though, help to convince investors that the investment is at least worth considering.



The relevance of this stamp of approval in the context of demonstration effects is that once a private (or other) investor has made one investment alongside a DFI into a particular sector, country, type of technology, etc. there is, interviewees believe, a greater likelihood that they will make follow-on investments without the need for development finance, as they have a more realistic perception of the relevant risks. Thus, the DFI paves the way for future private investments, without or with less development finance.

### **Standards**

Many interviewees identified that ESG criteria and standards are part of the enabling environment and saw their organisation's contribution to raising standards as an element of additionality. They described the achievement and adherence to new standards in the first project as a demonstration, and suggested that private investors are more likely to invest in follow-on projects because they had seen that improved standards are now feasible/in place. At least one DFI has conducted major sector initiatives allied to one initial project, which have then led to the adoption of new practices in the sector or country concerned. Examples included:

- A sector review of a particular industry which led to improved environmental standards.
- Adoption of international banking standards by all banks in a country as a result of a DFI support following a funded project, thus making future private investment easier and more likely.

Interviews with investors and programme partners supported the contention that DFIs' work in providing technical assistance for ESG and other standards in demonstration projects is valuable in giving them confidence that investees will be able to meet their requirements.

### **'Internal' demonstration effects**

Several interviewees described what they saw as a demonstration effect working within and between DFIs. They reported that once a particular funding structure or an investment in a particular sector, country or technology has been shown to be successful, colleagues in another department will often follow suit, making similar investments in other geographies and/or sectors. Other DFIs are also likely to replicate the type of investment. Although this second round of investments may well be at similar levels of concessionality to the initial investment, interviewees believed they do play an important role in widening subsequent private sector engagement in follow-on projects, thus contributing to changing the market. But in a similar way to 'external' demonstration effects, this outcome appears to be desired (though not formally targeted) but not measured or monitored.

### **IDB Invest report – Mobilization Effects of Multilateral Development Banks<sup>1</sup>**

As part of a project on macroeconomic research in low-income countries, supported by DfID, IDB Invest, part of development bank IDB, recently published a report on the mobilisation effects of MDBs. Although this was not specific to investments in LCCR projects, nor to demonstration effects, the interviewee at IDB pointed to the overall conclusions as an indication that demonstration effects created by MDBs do leverage private finance into follow-on projects.

The report writers found evidence of positive and significant direct and indirect mobilisation effects of multilateral lending on the number of deals and on the total size of bank inflows over the period 1993-2017. The number of lending banks and the average maturity of syndicated loans also increased after MDB lending. These effects last up to three years and are not driven by other factors such as the presence of large global banks, Chinese lending or aid flows. Results are not homogeneous across countries. In particular, most of the effects are concentrated in countries which are more economically and financially developed, and have better credit ratings. By contrast, the report states that MDB lending appears less effective at mobilising private finance in low-income, less financially developed and risky countries, suggesting that MDBs still face significant challenges in attracting private resources, especially in countries with larger financing needs. However, IDB reports that overall, the economic effects are sizable, suggesting that MDBs play a vital role in mobilising private sector financing.

<sup>1</sup> <https://publications.iadb.org/en/mobilization-effects-multilateral-development-banks>

## 4 Renewable energy investment research

This section draws on evidence from a range of sources to explore factors relating to investment in renewable energy. It is intended to inform an understanding of the wider investment environment within which demonstration effects may be operating.

### 4.1 Influence of the policy environment on renewable energy investment

The influence of the policy environment on investment in renewable energy was investigated by Ang, Rottgers and Burli<sup>2</sup>. They drew on econometric analysis to identify the following factors relating to the policy environment that positively influence investment in renewable energy in emerging economies that are members of the EU, G20 and/or OECD<sup>3</sup>:

- Public spending on renewable energy.
- Carbon prices.
- Energy tax rates favouring renewable energy.

Although feed in tariffs and renewable energy certificates are used in emerging economies, they were not shown by the study to have a positive effect on investment in renewable energy. Support measures for fossil fuel use in power generation were shown to deter investment in renewable energy.

The broader investment environment also has an effect on investment in renewable energy, particularly:

- The overall ease of doing business.
- Perceptions of corruption.
- Competition policy and the role of state-owned enterprises.
- Ease of trading across borders.
- Access to long term finance.

Considering the broader investment environment in the case study countries; Indonesia and Uganda:

- The World Bank constructs an Ease of Doing Business Score on a scale of 0-100, where 0 is the worst performing and 100 is the best performing economy<sup>4</sup>. According to this index the ease of doing business in both countries has improved since 2015:
  - Indonesia scored 67.96 for Ease of Doing Business in 2019 – a rise from 59.17 in 2015.
  - Uganda scored 57.06 in 2019, a rise from 50.63 in 2015.
- Perceptions of corruption – Transparency International produce a Corruption Perceptions Index<sup>5</sup>, scores are available for 180 countries between 2012 and 2018. According to this index:
  - Indonesia is ranked 89 out of 180 countries with a score of 38 - the score in 2012 was 32, suggesting an improvement in the perception of corruption.
  - Uganda is ranked 154 with a score of 26, this has fallen slightly from 29 in 2012, suggesting that the country is perceived as more corrupt.

<sup>2</sup>The empirics of enabling investment and innovation in renewable energy, OECD 2017.

<sup>3</sup>The research considered Argentina, Brasil, Bulgaria, China, India, Indonesia, Mexico, Romania, Russia, South Africa and Turkey.

<sup>4</sup><https://www.doingbusiness.org>

<sup>5</sup><https://www.transparency.org/country>

## 4.2 Investment trends

The IEA reports on global investment in power generation<sup>6</sup>, the key relevant findings from the 2019 report are that:

- Since 2010, global investment in renewable power has been broadly constant at around US\$300 billion. However, when changes in costs are taken into account, the amount of investment has risen by 55%.
- In 2018, renewable energy represented the majority of power generation investment in China, Brasil, India and sub-Saharan Africa. However, coal and gas accounted for more than renewables in Southeast Asia and Middle East and North Africa (MENA). The IEA identifies the ‘poor bankability’ of renewables projects in Indonesia as a barrier to investment.
- Investment in all regions in 2018 fell short of the annual level required in the IEA’s Sustainable Development Scenario (SDS). Southeast Asia and sub-Saharan Africa each invested less than half the amount that would be required to meet the SDS.
- Overall annual investment in countries with lower levels of financial sector development and foreign direct investment (FDI)<sup>7</sup> is 60% less than would be needed to meet the SDS.
- The average cost of new power generation capacity has fallen by 20% for onshore wind and 75% for solar PV since 2010.
- The return on invested capital for the top 25 listed companies by ownership of wind and solar power generation capacity has been declining over the last 12 years, but has still exceeded the weighted average cost of capital in all but three of those years.
- The cost of equity and debt capital has fallen by around one third over the past 12 years for the top 25 listed companies by ownership of wind and solar power generation capacity.
- The amount of project finance for renewable power generation increased by nearly 50% between 2015 and 2018.

This report confirms the anecdotal evidence from interviews that, overall, there is no shortage of investment available for renewable energy investment. However, it reports that Indonesia and much of sub-Saharan Africa, outside of South Africa, are more constrained for capital, particularly for early stage project preparation.

## 4.3 Analysis of IJ Global data

Data for 1202 infrastructure investments in renewable energy in developing countries between 2003 and 2019 was downloaded from the IJ Global website<sup>8</sup>. The total value of these investments was US\$235 billion.

Analysis was conducted for 768 transactions between 2009 and 2018 where there was a date for financial close, and it was possible to identify whether development finance was involved or whether the transaction was entirely financed by private investment.

The IJ Global data was explored to identify trends by region, country and sector for transactions that involved development finance and those which were financed by private finance alone.

IJ Global identifies investments through their own proprietary research and it is not comprehensive; not all transactions are captured, and full information has not been captured for each reported transaction. IJ Global reported value for renewable energy transactions with a total value of US\$157 billion for 2017 compared to the IEA<sup>9</sup> reported total of US\$298 billion for the same year. This suggests that the IJ Global transactions represent

<sup>6</sup> <https://www.iea.org/wei2019/power/>

<sup>7</sup> Financial sector development in a given country or region is assessed as the share of private credit to gross domestic product (GDP) and the share of stock market capitalisation to GDP. The role of foreign direct investment (FDI) is assessed by the share of net FDI inflows to GDP.

<sup>8</sup> <https://ijglobal.com>

<sup>9</sup> IEA, World Energy Investment, 2018. See <https://www.iea.org/reports/world-energy-investment-2018>

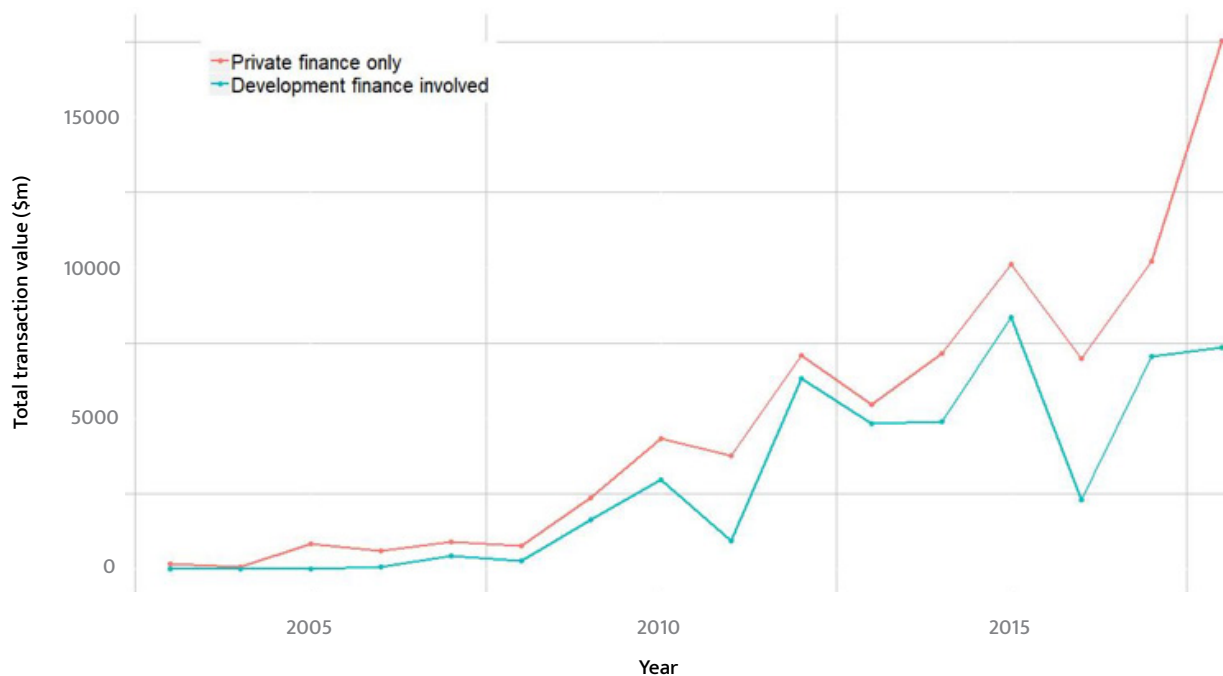
about half the total. Potential limitations of the data include:

- IJ Global data on emerging economies may be less reliable than that for developed economies.
- IJ Global are likely to have more and better data for major infrastructure projects than for smaller ones. They do not report data on household investment in products such as home solar systems which may be included in the IEA data.

The level of investment in renewable energy reported by IJ Global has increased from about US\$4 billion in 2009 to about US\$25 billion in 2018. The value of transactions financed by the private sector alone has increased nearly twice as fast as the value of transactions involving development finance.

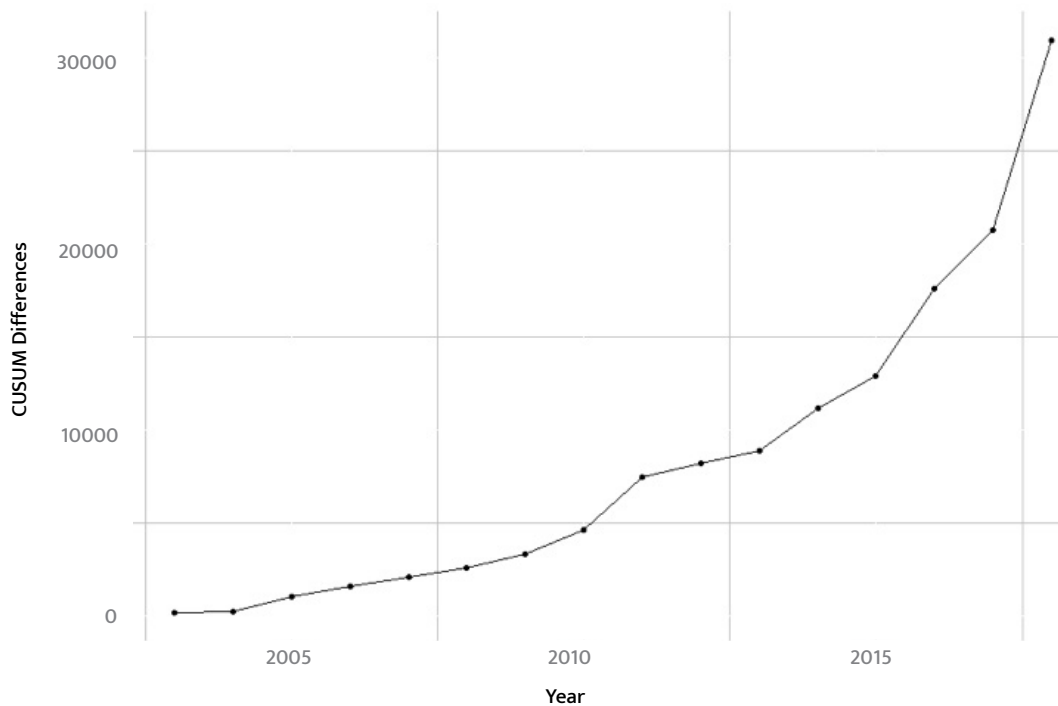
Both the number of transactions and the total amount invested have increased since 2009. The chart below shows the total investment split by whether development finance was involved in the transaction or not. It can be seen that, since 2012 the value of transactions involving development finance was broadly stable whereas the value with private finance only continued to increase.

**Figure 1:** Value of investment in renewables in developing countries where development finance is or is not involved (898 transactions)



Trends in investment have been explored by investigating the cumulative difference (CUSUM) between the value of projects financed by private investment alone and the value of projects that involved development finance (i.e. the value in the top red line minus the value in the lower blue line in the chart above). This approach reduces the effect of short-term variability and makes long-term differences more evident. The chart on the next page shows this analysis for the total investment in renewable energy projects reported by IG Global:

**Figure 2:** CUSUM of differences between total investment in renewables projects with private finance only and projects involving development finance reported by IJ Global (n=898)



It can be seen that investment in projects with private finance only is growing at a faster rate than investment involving development finance. It also appears that there is a change in the difference between rates of growth after 2010 (seen by a change in the gradient of the line), with private investment only projects attracting more investment.

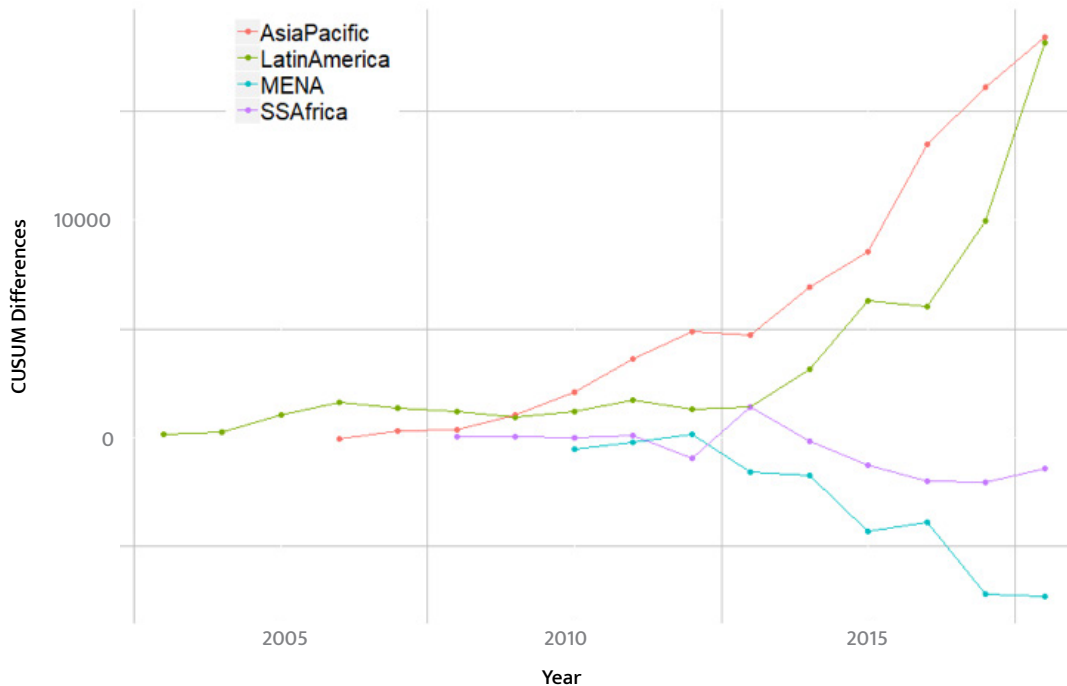
The average (mean) difference between the value of investment in projects with private finance only and that in projects with development finance was US\$581 million before 2010; the average difference after the change point in 2010 was US\$3,287. This difference between the two periods is statistically significant at the 95% confidence interval.

An autocorrelation test has been used to establish whether the time series is a trend and would not have occurred randomly; in this case, we can be 95% confident that the series represents a trend.

## Results by region

Figure 3 below analyses investment in renewable energy projects in four regions; Asia-Pacific, Latin America, Sub-Saharan Africa and MENA.

**Figure 3:** CUSUM of difference in value of investment in renewables in developing countries where development finance is or is not involved by region (Asia 272, Latin America 340, Sub-Saharan Africa 131, MENA 79 transactions)<sup>10</sup>



These results show a clear trend in increasing value of projects funded by private finance alone in Asia-Pacific (driven by four countries: China, India, Indonesia and Thailand where India has made the largest contribution) and Latin America. In MENA, investment projects with development finance is growing more quickly than in those funded solely by private finance. In Sub-Saharan Africa, there is no discernible trend. As with the total investment, a change point has been identified where the trends in investment, with and without development finance, diverged.

The table below shows the change point for each region, with the mean difference in investment before and after that point together with the results of the statistical tests.

**Table 3:** Change points, mean differences and statistical tests by region

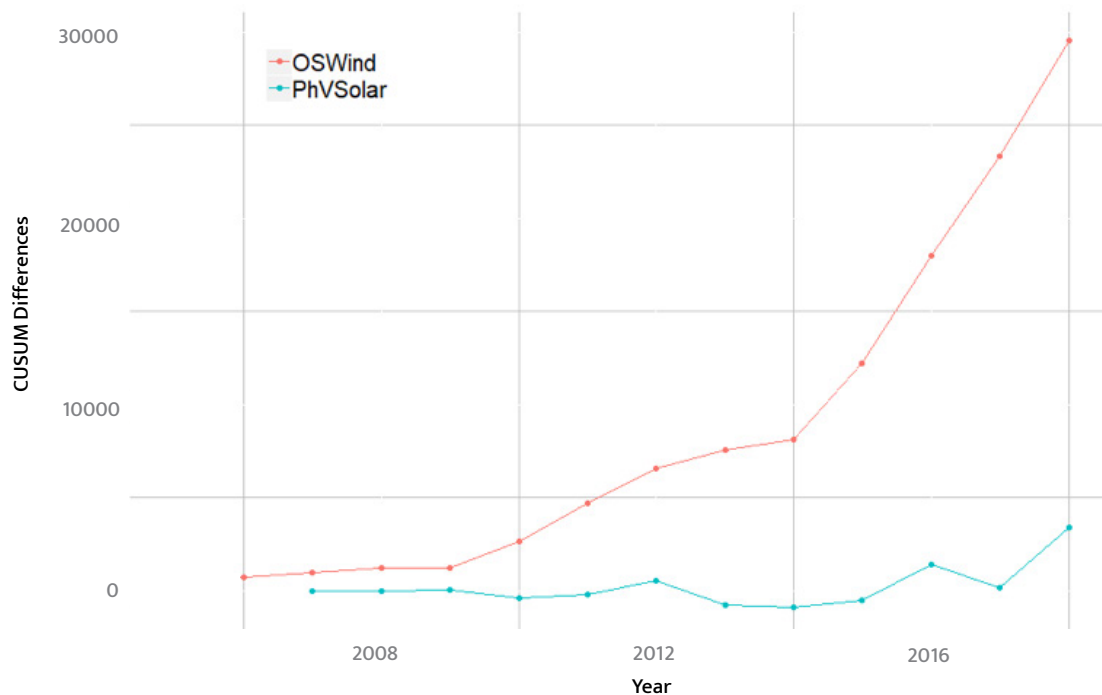
Region	Year of change point	Mean difference in investment before change (\$m)	Mean difference in investment after change (\$m)	Statistically significant	Autocorrelation
Asia-Pacific	2008	124	1,804	95%	95%
Latin America	2013	128	3,352	90%	95%
Sub-Saharan Africa	2011	29	-216	No	No
MENA	2012	53	-1239	No	95%

<sup>10</sup> The chart includes data from the first year in which it is available, so some lines do not start in 2003.

## Results by sector

Figure 4 below analyses investment in renewable energy projects in the onshore wind and photovoltaic solar sectors.

**Figure 4:** CUSUM of difference in value of investment in renewables in developing countries where development finance is or is not involved by sector (onshore wind 393, PV solar 336 transactions)<sup>11</sup>



The value of investments with private finance alone has grown faster than those with development finance involved in the onshore wind sector, with an apparent change in the relative rates of growth in 2009. However, there does not appear to be a trend for the photovoltaic solar sector.

The table below shows the change point for each sector, the mean difference in investment before and after that point together with the results of the statistical tests.

**Table 4:** Change points, mean differences and statistical tests by sector

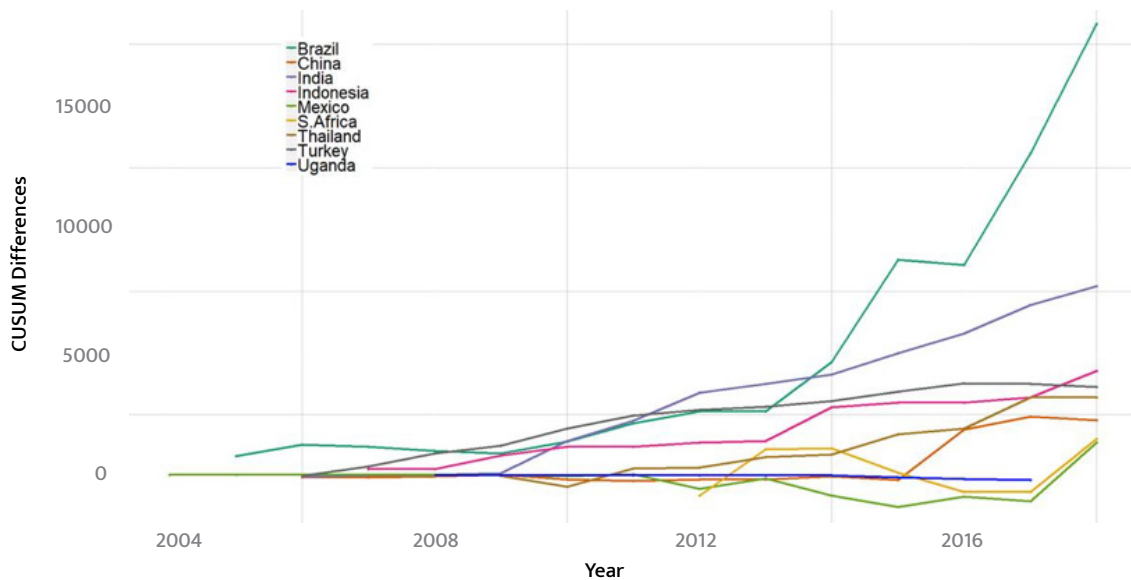
Region	Year of change point	Mean difference in investment before change (\$m)	Mean difference in investment after change (\$m)	Statistically significant	Autocorrelation
Photovoltaic solar	No trend, no change point				No
Onshore wind	2009	250	3,144	95%	95%

<sup>11</sup> The chart includes data from the first year in which it is available, so some lines do not start in 2003.

## Results by country

Figure 5 below shows the cumulative difference between private finance only investment and investment involving development finance for nine countries, where IJ Global had sufficient<sup>12</sup> data to enable the analysis.

**Figure 5:** CUSUM of difference in value of investment in renewables in selected countries where development finance is or is not involved by sector (Brasil 201, China 67, India 188, Indonesia 35, Mexico 94, South Africa 84, Thailand 64, Turkey 82, Uganda 14 transactions)<sup>13</sup>



There is a clear trend where private investment is growing faster than projects including development finance in Brasil, China, India, Thailand and Turkey. Indonesia has shown a similar trend, but this is dependent on 17 projects involving geothermal energy, if they are removed there is no clear trend. The trend in Mexico until 2017 showed the opposite, with development finance growing faster than projects funded by private investment only; this reversed in 2018, but it is too soon to tell whether that represents a change point. There was no clear trend in South Africa. Uganda shows a trend of projects including development finance growing faster than those with private finance only.

The table below shows the change point for each of the selected countries, the mean difference in investment before and after that point together with the results of the statistical tests.

**Table 5:** Change points, mean differences and statistical tests by country

Region	Year of change point	Mean difference in investment before change (\$m)	Mean difference in investment after change (\$m)	Statistically significant	Autocorrelation
Brasil	2011	307	2309	90%	95%
China	2015	-14	807	No	95%
India	2009	33	841	95%	95%
Indonesia	2014	350	368	No	95%
Mexico (to 2017)	2011	14	-120	No	95%
South Africa	No trend, no change point				No
Thailand	2010	-207	452	No	95%
Turkey	Always growing, no change point				95%
Uganda	2009	19	-24	No	90%

<sup>12</sup> To enable the trend analysis, data were ideally required for each year. In some cases, one year was missing but countries were excluded where data were missing for consecutive years.

<sup>13</sup> The chart includes data from the first year in which it is available, so some lines do not start in 2003.



## 4.4 Analysis of other data

### Climatescope

We explored whether there was a relationship between the trends identified above and the changes in the Climatescope scores for each country over the period Climatescope has been reporting. However, none was identified.

Climatescope produces scores rating the investment environment for clean energy in developing countries. This could provide an indication of whether there are other factors causing an increase in private investment in renewable energy.

We could not find a relationship between the Climatescope score for the countries under investigation and the observed trends in private finance, and investment involving development finance in the countries where data are being analysed. However, this is not altogether surprising as, for most countries, Climatescope scores have only been available for part of the period and do not cover the change points identified above.

**Table 6:** Change points and Climatescope data availability

Country	Change point date	Climatescope data since
Brasil	2011	2012
China	2015	2014
India	2009	2014
Indonesia	none	2014
Mexico	2011	2012
South Africa	none	2014
Thailand	2010	2018
Turkey	none	2017
Uganda	2015	2014

Bloomberg New Energy Finance (BNEF) provided data from Climatescope on cross-border (i.e. where the investor was located in a different country from the project) clean energy investments in developing countries between 2004 and 2017.

These investments represented around 5% of the total clean energy investment in developing countries reported by Climatescope in 2017. The full dataset from Climatescope was not available. Because these data represented a small proportion of the total investment and related only to cross-border investment, it is hard to determine what, if any, conclusions could be drawn from any analysis therefore analysis has not been conducted. HMG have confirmed that it will not be possible to obtain a fuller dataset from BNEF.

### EY Renewable Energy Country Attractiveness (RECA) Index

This index<sup>14</sup> assesses the attractiveness of 40 countries for their opportunities for investment in, and deployment of, renewable energy. The methodology for the assessment has changed several times over the last five years as has the countries included in the index, so although scores are available for 2015 and 2019, it is hard to compare them due to methodological changes. However, the ranking for the six years to 2019 is shown on the next page.

<sup>14</sup> [https://www.ey.com/en\\_uk/power-utilities/renewable-energy-country-attractiveness-index](https://www.ey.com/en_uk/power-utilities/renewable-energy-country-attractiveness-index) accessed on 10 July 2019.

**Table 7:** Renewable energy country attractiveness (RECA) index

Country	2019	2018	2017	2016	2015	2014
China	1	1	1	2	1	1
India	4	3	2	3	4	5
Brasil	17	20	15	6	9	9
South Africa	–	–	19	11	13	15
Mexico	19	13	9	7	20	22
Thailand	35	34	31	37	22	21
Morocco	13	12	14	14	27	27
Peru	38	33	28	24	28	26
Philippines	27	24	23	22	31	32
Kenya	37	40	35	30	33	34
Egypt	14	15	27	16	37	39
Indonesia	40	36	–	39	39	38
Vietnam	26	–	–	–	–	–
Pakistan	34	22	26	38	–	–

Considering the trends in these data:

- China and India have remained in the top quartile for attractiveness over the last six years.
- Brazil, Thailand and Peru have become less attractive – dropping at least one quartile.
- Mexico and Philippines become somewhat more attractive (rising one quartile) while Egypt has become significantly more attractive – rising two quartiles.
- South Africa remained in the second quartile but data have not been reported since 2017 (we don't know why).
- Indonesia and Kenya have remained in the bottom quartile for attractiveness.

Although the full methodology is not available, the index is based on the following factors:

- Economic stability and the investment climate.
- The drivers of energy supply and demand.
- Policy environment.
- Project delivery.
- Technological potential.

### JP Morgan Data Analytics

HMG recommended that we also review JP Morgan Data Analytics<sup>15</sup>. However, we couldn't identify useful data from this source.

## 4.5 Causality

The analysis in this section shows that private investment in renewable energy is growing faster than investment that includes development finance, and shows for some countries a point where the faster growth started. The analysis does not show whether the earlier development finance investment caused the increase in private investment.

Possible causes, other than the demonstration effect, include growing sophistication of financial markets and/or improved commercial and regulatory environment for renewable energy, as well as an increase in funds available for investment in this area. We have not yet been able to identify a way to test these possibilities through quantitative analysis.

<sup>15</sup> <https://www.jpmorgan.com/global/research/dataquery>

## 5 Research tools

As part of the preparation for interviews, we developed a programme investigation strategy (PIS) for each programme, using the document review, setting out what we wanted to explore with interviewees. It included areas which we identified for further follow-up, and contacts for ‘snowballing’. The PIS was kept up to date as interviews on each programme progressed. A template PIS is given below.

Generic discussion guides were developed for interviews with different investor types: businesses and developers, direct investors, fund managers and institutional investors. The guides were piloted, adapted and then agreed with the Steering Group. A sample is given below.

Using the PIS, we then tailored each guide to the respondent being interviewed, concentrating on the areas to which they would be most likely to be able to contribute, and the theories which they could confirm, refute or refine.

### 5.1 Programme Investigation Strategy (PIS)

Programme	PIS created by	Date
Global Climate Partnership Fund (GCPF)		

#### Brief description of the programme and its intended demonstration effect

*Include summary of programme, start and end dates, intended outcomes, £ value, results (can be found in the MOPS) and any other background information that might be relevant when preparing for an interview.*

Value	£36,000,000	Start	December 2013	End	?
<p>GCPF is a public-private partnership that uses public funds to leverage private capital in order to mobilise investment flows in energy efficiency and renewable energy projects in developing and emerging markets. The fund mainly invests through financial institutions but also directly.</p> <p>GCPF aims to create demonstration effects at two levels: at a fund level, it aims to show that investment in LCCR funds can produce a risk/return balance that is commercially viable for institutional investors; and at a financial institution level (through investment and technical assistance facility) it aims to increase the capability/capacity of financial institutions to offer green lending products, giving them confidence in the viability of the renewable energy/energy efficiency sector and enabling them to raise private funding in the future.</p>					

#### Intended demonstration effects expressed as CMOs

- Fund level (institutional investors) – GCPF shows that green investment in LCCR funds can produce a risk/return balance that is commercially viable for institutional investors (C) and so they have confidence in the ability of similar funds to perform (M) and so they invest in LCCR funds (O).
- Financial institution level (private investors involved) – GCPF increases the capacity/capability of financial institutions to offer green lending products (C), which gives them the confidence in how to structure deals and the commercial viability of the renewable energy/energy efficiency sector (M), and so they seek new lines of credit for further on-lending (O).
- Financial institution level (private investors not involved) – GCPF helps financial institutions build a track record of green lending (C), which gives private investors the confidence in their ability to make commercial returns (M) and so they invest in these financial institutions (O).
- Financial institution level (private investors not involved – other banks) – Demonstration project shows financial institutions delivering green lending and making commercial returns (C), this gives other banks the confidence that this type of model can work for them (M) and seek advice and information on how to replicate (O).

Interviews recommended? Who with? (Snowball)	Yes
<ul style="list-style-type: none"> <li>- [name] – SRO</li> <li>- [name] - Chair of the Board [company]</li> <li>- [name] - Investment Manager [company]</li> <li>- [name] - Co-investor [company]</li> <li>- Financial institution where GCPF introduced (or helped to scale up) green lending;               <ul style="list-style-type: none"> <li>- [name of potential interviewee]</li> <li>- [name of potential interviewee]</li> </ul> </li> <li>- Financial institutions who are replicating green lending (yet to be identified)</li> </ul>	

Additional documents identified
<i>Include here any relevant documents identified in the document review that should be requested for review (document name, author/organisation, purpose).</i>
1.

What theories will be informed by researching this programme? <i>Delete as appropriate</i>		
Theory	Comments <i>Include the specific aspects of the theory of change that are relevant.</i>	
3	Private investors	<ul style="list-style-type: none"> <li>- Some financial institutions said they would expect to use other funds to support green lending products (like solar rooftops, hydroelectric, etc.), with one case of a financial institution trying to sign another credit line outside of GCPF.</li> <li>- GCPF has helped a financial institution in India to structure green lending – this financial institution is now able to do it themselves and is able to attract private investment without GCPF.</li> <li>- This financial institution has shared learnings of its partnership approach with government and across irrigation business and now other banks are replicating the model.</li> <li>- The mid-term evaluation (MTE) reports that there is evidence that some financial institutions are being approached by other financial institutions in the market to learn from their approach and replicate green lending models.</li> <li>- In Namibia, GCPF enabled a financial institution to invest in renewable energy that other local banks were struggling to invest in. This first of a kind project may have demonstration effects.</li> <li>- Financial institutions using information from demonstration project for marketing purposes to increase demand and build further green lending pipelines.</li> <li>- 42% increase in sub-fund investment in the last year under review which indicates increased capabilities of financial institutions to deliver green finance.</li> </ul>
6	Institutional investors	<ul style="list-style-type: none"> <li>- MTE reports that the track record of GCPF has reduced perceptions of risk around LCCR investments for co-investors. However, does the slow pace of private co-investment indicate that GCPF is unlikely to have demonstration effects for investors at a fund level?</li> <li>- Is there instead a demonstration effect for fund managers around how to structure funds, with the different tranches and first loss being absorbed by the public sector?</li> <li>- Explore the impact of GCPF not having an independent rating.</li> </ul>
10	Unintended consequences	<ul style="list-style-type: none"> <li>- Rates of return not being attractive enough for institutional investors (so LCCR funds not seen as commercially viable).</li> <li>- One of the banks GCPF invested in has gone into receivership.</li> <li>- For PIS, some of the sub-loans are loss-making – this could lead to them perceiving green lending as risky.</li> </ul>
14	Other factors	<ul style="list-style-type: none"> <li>- Key barriers/enablers to demonstration effects – political buy-in, senior level buy-in at financial institutions.</li> <li>- Another barrier is that GCPF is not rated independently, which is a key tool for investors when assessing risk.</li> </ul>

**Given everything above, what do we therefore want to know from the primary research?**

*Include specific questions that come to mind as a result of the document review*

Question	Who	Theories
<p><b>Private investors (programme partners)</b></p> <ul style="list-style-type: none"> <li>• In the MTE it is reported that some financial institutions said they would expect to use other funds to extend green pipelines/support green lending products (like solar rooftops, hydroelectric, etc.), with one case of a financial institution trying to sign another credit line outside of GCPF. Has that occurred?</li> <li>• Are there any other examples of financial institutions who are seeking new lines of credit/offering new green products outside of GCPF as a result of their involvement in the fund?</li> <li>• Is that without/with less development finance?</li> <li>• What was it about GCPF that enabled them to do so? (e.g. demonstrating commercial rates of return, proving business models, etc.)               <ul style="list-style-type: none"> <li>- Is it that the money from GCPF enables them to build a track record? Raising their profile and making them more attractive to other funds.</li> </ul> </li> </ul>	SRO, implementing partner, PIS	3
<ul style="list-style-type: none"> <li>• There is an example in the MTE of a financial institution in India on-lending to farmers. The case study suggests that now that the demonstration effects of financing these types of product are clear, private sector investment through this financial institution would be likely to continue without GCPF? Do you know if this is the case?</li> <li>• What is it about their experience with GCPF that has enabled this financial institution to get to this stage?</li> <li>• They also invested in five start-up companies – why did they do that? It was outside of GCPF, who funded this? If the financial institution had not been supported by GCPF, do you think these investments would have happened?</li> <li>• Why is it important for transformational change for financial institutions to build up a supply chain?</li> </ul>	SRO, implementing partner, the financial institution	3
<ul style="list-style-type: none"> <li>• MTE reports that some financial institutions are using information from demonstration project for marketing purposes to increase demand and build further green lending pipelines. Has this happened? What is it about their involvement with GCPF that has enabled them to do so?</li> </ul>	SRO, implementing partner	3
<ul style="list-style-type: none"> <li>• For the bank in Ecuador (case study in the MTE) who has now incorporated green loans into its offering. How did the involvement of GCPF here enable them to mobilise finance? Is the demonstration that there is a business opportunity here which can be exploited?</li> </ul>	SRO, implementing partner	3
<p><b>Private investors (replicators)</b></p> <ul style="list-style-type: none"> <li>• The financial institution in India who is on-lending to farmers shared information and this is now being replicated by other banks, is that correct? Are these other banks doing so with private investment?</li> <li>• What do you think it is about the demonstration project that has led to them replicating the model?</li> <li>• Are there any other examples of financial institutions being approached by other financial institutions in the market to learn from their approach and replicate the lending models? Can you tell me a bit about this? What evidence is there?</li> </ul>	SRO, implementing partner	3

<ul style="list-style-type: none"> <li>In Namibia, GCPF enabled a financial institution to invest in renewable energy that other local banks were struggling to invest in. The project is believed to have provided a proof of concept for other renewable energy investments in the region. Has this led to any further invest in this sector in the region? Are there any demonstration effects for the local banks who were struggling to invest?</li> </ul>	SRO, implementing partner	3
<p><b>Institutional investors</b></p> <ul style="list-style-type: none"> <li>GCPF has struggled to attract private investment in at pace – do you think this is an indicator that the programme may struggle to have demonstration effects at a fund level? (If investor appetite for funds is a positive indicator)</li> </ul>	SRO, implementing partner	6
<ul style="list-style-type: none"> <li>Do you think GCPF has been successful in reducing perceptions of risk for institutional investors? Is there any evidence that this is the case?</li> </ul>	SRO, implementing partner	6
<ul style="list-style-type: none"> <li>GCPF does not have an independent rating – do you think this is significant for institutional investors who need to have a way of demonstrating the lower risk?</li> </ul>	SRO, implementing partner, investors	6
<ul style="list-style-type: none"> <li>How important is this idea of the ‘track record’ of a fund manager for the mobilisation of private finance?</li> </ul>	SRO, implementing partner, investors	6
<p><b>Unintended consequences</b></p> <ul style="list-style-type: none"> <li>At fund level the rates of return, although in line with expectations, are below the rates required by institutional investors to invest in funds – could this have the negative impact of them perceiving LCCR funds to not be commercially viable?</li> <li>One of the banks GCPF invested in has gone into receivership – could this have a negative impact on the perception of the Investment Manager?</li> <li>For PIS, the MTE reported some of the loans were loss-making – is this likely to impact on financial institutions’ decisions to extend their green lending?</li> </ul>		10
<p><b>Other Factors</b></p> <ul style="list-style-type: none"> <li>To what extent have other factors inhibited or enabled the ability of GCPF to have demonstration effects? For example: political buy-in, and senior level buy-in at financial institutions.</li> </ul>	SRO, implementing partner	14

## 5.2 Topic guide for SRO

Programme	Topic guide created by	Date
GCPF		

Interviewee	Interviewer	Date of interview	Time of interview
SRO			

### Introduction – Adapt as appropriate to the interview

Thank you very much for agreeing to help with our work. We are beginning to develop ideas on how and in what circumstances ICF programmes are mobilising private finance into LCCR markets through demonstration effects. This is when LCCR projects are undertaken, or funds established to invest in them, without or with less development finance, as a result of evidence from ICF supported projects. During the interview, I'm hoping to test out some of our early ideas with you so you can help us to refine them. I'm planning to record our conversation so that I can make sure I don't miss anything. We may also include anonymised quotes in our report. Is that OK with you? The report will be published later in 2019.

Please could we start with a brief introduction to you and your job role? What programme(s) are you currently working on/have you worked on in the past?

**So, we are interested in demonstration effects, is that a concept you are familiar with? So, thinking about GCPF, can you tell me a little bit about the programme and how it intended to create demonstration effects?**

### Programme partners

Where investors who have co-invested in ICF programmes have a good experience on that project, or feel they can learn from their experience on that project and where they have an ongoing interest in that sector and country, then those investors will seek out follow-on projects with less or no development finance because they:

- Feel they understand the risks and rewards better.
- Know what it takes to deliver a successful project.
- Are confident that the enabling and political conditions in the country are favourable.

- So, to begin, how did GCPF aim to create a demonstration effect at a partner institution level?
- Why could the financial institutions not use their own funds to lend to these types of projects? If they are lending mortgages, or other business loans, why could they not use their own money to lend to these renewable energy/energy efficiency projects?
- If they were concerned about risking their own capital, could they have accessed money from other sources was more concessional (the evaluation mentions that DFI funding was available because GCPF was competing with it)? If so, why did they lend money from GCPF?
- Was it to do with technical assistance facility? Do you think there was a demonstration effect there?

Exploring programme background and initial thoughts around demonstration effects

- In the MTE, it is reported that some financial institutions said they would expect to use other funds to extend green pipelines/support green lending products (like solar rooftops, hydroelectric, etc.), with one case of a financial institution trying to sign another credit line outside of GCPF. Has that occurred? Is that with less development finance?
- Are there any other examples of financial institutions who are seeking new lines of credit/offering new green products outside of GCPF as a result of their involvement in the fund?

Testing for outcomes

<ul style="list-style-type: none"> <li>- What was it about GCPF that enabled them to do so? (e.g. demonstrating commercial rates of return, proving business models, etc.)</li> <li>- Is it that the money from GCPF enables them to build a track record? Raising their profile and making them more attractive to other funds?</li> <li>- What other contexts need to be in place in order that these banks extend their green lending/move into new technologies/credit lines? Is it just that they have had a good experience – what else needs to be in place?</li> </ul>	Testing for mechanisms/contexts
<ul style="list-style-type: none"> <li>- There is an example in the MTE of a financial institution in India on-lending to farmers. The case study suggests that now that the demonstration effects of financing these types of product are clear, private sector investment through this financial institution would be likely to continue without GCPF? Why?</li> <li>- What is it about their experience with GCPF that has enabled this financial institution to get to this stage?</li> <li>- This financial institution also invested in start-ups outside of the programme, to help build up the supply chain. Why is it important for transformational change for financial institutions to build up a supply chain?</li> </ul>	Testing for outcomes/mechanisms/contexts
<ul style="list-style-type: none"> <li>- For the bank in Ecuador (case study in the MTE) who has now incorporated green loans into its offering. How did the involvement of GCPF here enable them to mobilise finance? Is the demonstration that there is a business opportunity here which can be exploited?</li> </ul>	Testing for mechanisms

### Theory 3 Private investors not involved

Where development finance is invested in LCCR projects (through fund structures), it builds a track record for the sector and/or fund managers working in that sector. This results in increased interest in the sector from institutional investors who are willing to invest without or with less development finance because they have confidence in the potential of the sector and the ability of fund managers to deliver the performance they require.

<ul style="list-style-type: none"> <li>- The financial institution in India who is on-lending to farmers shared information and this is now being replicated by other banks, is that correct? Are these other banks doing so with private investment?</li> <li>- What do you think it is about the demonstration project that has led to them replicating the model?</li> </ul>	Testing for outcomes/mechanisms
<ul style="list-style-type: none"> <li>- Are there any other examples of financial institutions being approached by other financial institutions in the market to learn from their approach and replicate the lending models? Can you tell me a bit about this? What evidence is there?</li> </ul>	Testing for outcomes
<ul style="list-style-type: none"> <li>- In Namibia, GCPF enabled a financial institution to invest in renewable energy that other local banks were struggling to invest in. The project is believed to have provided a proof of concept for other renewable energy investments in the region. Has this led to any further invest in this sector in the region?</li> <li>- If so, what was it about the Namibia project that has led to this replication?</li> </ul>	Testing for outcomes/mechanisms
<ul style="list-style-type: none"> <li>- More widely, what is it about GCPF financial institution projects that might lead to demonstration effects for other financial institutions locally/regionally?</li> </ul>	Testing for mechanisms
<ul style="list-style-type: none"> <li>- What other contexts need to be in place for a bank to consider replicating these green lending models?</li> </ul>	Testing for contexts



### Theory 6 Institutional investors

Where development finance is invested in LCCR projects (through fund structures), it builds a track record for the sector and/or fund managers working in that sector. This results in increased interest in the sector from institutional investors who are willing to invest without or with less development finance because they have confidence in the potential of the sector and the ability of fund managers to deliver the performance they require.

<ul style="list-style-type: none"> <li>- How was GCPF aiming to demonstrate at a fund level?</li> <li>- Does it want commercial funds to lend to these financial institutions? Or does it want investors to invest into these LCCR funds?</li> <li>- Is the main demonstration effect at fund level around lower the perception of risk, so the level of risk/return is acceptable for institutional investors?</li> </ul>	Exploring initial thoughts around demonstration effects
<ul style="list-style-type: none"> <li>- GCPF has struggled to attract private investment in at pace – do you think this is an indicator that the programme may struggle to have demonstration effects at a fund level? (If investor appetite for funds is a positive indicator...)</li> </ul>	Testing to see if demonstration effect is working
<ul style="list-style-type: none"> <li>- Do you think GCPF has been successful in reducing perceptions of risk for institutional investors? Is there any evidence that this is the case?</li> </ul>	Testing for outcomes
<ul style="list-style-type: none"> <li>- GCPF does not have an independent rating – do you think this is significant for institutional investors who need to have a way of demonstrating the lower risk?</li> </ul>	Testing for contexts
<ul style="list-style-type: none"> <li>- How important is this idea of the ‘track record’ of a fund manager for the mobilisation of private finance? How does this impact on an institutional investor’s decision to invest in similar LCCR funds?</li> </ul>	Testing for mechanisms

### Unintended consequences

<ul style="list-style-type: none"> <li>• At fund level the rates of return, although in line with expectations, are below the rates required by institutional investors to invest in funds – could this have the negative impact of them perceiving LCCR funds to not be commercially viable?</li> </ul>	Testing for contexts/mechanisms
<ul style="list-style-type: none"> <li>• One of the banks GCPF invested in has gone into receivership – could this have a negative impact on the perception of the Investment Manager?</li> </ul>	Testing for contexts
<ul style="list-style-type: none"> <li>• For PIS, the MTE reported some of the loans were loss-making – is this likely to impact on financial institutions decisions to extend their green lending?</li> </ul>	Testing for contexts

### Other factors

<ul style="list-style-type: none"> <li>• To what extent have other factors inhibited or enabled the ability of GCPF to have demonstration effects? For example: political buy-in, and senior level buy-in at financial institutions?</li> </ul>	Discussion around key barriers/enablers to demonstration effect working
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And finally...	
Thank you for your patience.	
Is there anything that you think we should have discussed but haven't covered?	To ensure we capture anything that wasn't on our radar
Are there any important documents that you think we should review?	To find additional sources of evidence
Is there anyone that you think we should speak to?	To find additional informants
Could you suggest someone we could talk to at: <ul style="list-style-type: none"> <li>• KfW</li> <li>• responsAbility – the Investment Manager.</li> <li>• A private co-investor in GCPF.</li> <li>• Financial institutions who have received funding and are now seeking to open new lines of credit/products outside of GCPF projects.</li> <li>• Competitor financial institutions who may be replicating green lending.</li> </ul>	To find additional informants
And finally, please may I have your permission to contact you again?	To ensure we have the permission in place in case we want to test theories again, or pick up on something that comes to light later.

### Background and resources

*Include links to websites reviewed and titles of documents – anything that might be useful for an interviewer to refer to.*

## 5.3 Topic guide for businesses and developers

Programme	Topic guide created by	Date

Interviewee	Interviewer	Date of interview	Time of interview
Co-investor, operator, developer, sponsor			

**Introduction***Adapt as appropriate to the interview***Thank you very much for agreeing to help.**

We are working for the UK government looking at the way they consider climate change in overseas aid projects, and how they aim to influence the market for climate finance in developing countries. We are exploring whether and how some of their programmes are showing private investors that it can be viable to invest in projects that address climate change issues. We're particularly interested in instances when private investors make these investments on commercial terms, that is without any funding from governments or development banks.

We have been looking at XYZ programme, which you have been involved in, so we're keen to learn about your experience of the project and what you've done since, and if you're aware of any broader impacts the programme has had.

During our conversation, sometimes I'm probably going to ask you some questions which might seem to have really obvious answers, but that's because I do need to check our understanding and make sure I get your views rather than assuming anything. I hope you will bear with me!

I'm planning to record our conversation so that I don't miss anything. What you say is confidential to this evaluation team, but we may include anonymised quotes in our report. Is that OK with you? The report should be published later in 2019.

**Businesses and developers**

Where businesses offering low-carbon products and services or developers of renewable energy projects are actively considering investing in a sector or country and where there is evidence from ICF programmes that improves their understanding of transaction costs, the level of demand, potential return on investment, credit risk, financial structures and/or the presence of a supply chain - this provides them with confidence that they can assess the risks and returns with sufficient accuracy which, in turn, enables them to make a decision about investing in the sector or country.

**Introduction**

- Please could we start with a brief introduction to you and your involvement with XYZ programme? How and why did you first get involved? Can you remember and describe what influenced your initial investment decision?
- Have you previously invested in other projects which address climate change issues?
- Were you aware of UK government finance involvement and did that involvement influence your decision? If yes, would you have invested if it, or other development finance, was not present?

Exploring background to initial investment

**Investment focus**

- What sectors and countries do you invest in? How would you describe your business focus? (e.g. is it solar in Uganda, renewables in Africa, energy in developing countries, infrastructure anywhere or just profitable investments?)
- What do you need to know about a specific sector/country when you make investment decisions? How do you get that information, and what makes you trust it or not? How important is personal experience in this?
- How do you tell that the enabling and political conditions in the country are favourable? What do you need to know and how do you find that out? What does 'favourable' actually look like to you?
- Does the presence of concessional or development finance (that is, finance from UK or other governments, or development banks) influence your decision?

Testing for contexts

<p><b>Experience of XYZ programme</b></p> <ul style="list-style-type: none"> <li>- How would you describe your experience of the programme? What makes you say that?</li> <li>- Is there anything about investing in this programme that is/has been different from other investments you've made? If so, what was that, and what was the result?</li> </ul>	Testing for contexts
<p><b>Investment since XYZ programme</b></p> <ul style="list-style-type: none"> <li>- Could you tell me about your investment decisions since your investment in XYZ project?</li> <li>- I'm particularly interested in cases where you've invested on commercial terms, with less or no funding from governments or development banks: <ul style="list-style-type: none"> <li>- <b>Replicated with less development finance:</b> Have you gone on to make any further investments in climate change projects without or with less funding from governments or development banks? Or do you intend to do this? If so, can you tell me about these investments? <ul style="list-style-type: none"> <li>• How much was your investment and into what projects? Was it debt and/or equity?</li> <li>• How much was invested by other private investors? Who were they? Was it debt and/or equity?</li> <li>• Why do you think you were willing to make such further investments?</li> <li>• Can you say what influenced you?</li> </ul> </li> <li>- <b>Considering replicating with less development finance:</b> What are you considering? What does your decision about proceeding or not depend on?</li> <li>- <b>Considered but not proceeded:</b> Why have you not proceeded? Is there anything that would have made it more likely that you would make such further investments? If you considered but rejected a specific project, what was it about that project that was different from XYZ programme?</li> <li>- <b>Not considered:</b> Why have you not considered the idea of such further investments? If not, why not? Have you come across opportunities? Is there anything that would have made it more likely that you would consider doing so?</li> <li>- <b>Reinvested with same/more development finance:</b> Have you made further investments in projects with the same or increased level of funding from governments or development banks?</li> <li>- <b>Other</b></li> </ul> </li> <li>- (If not already clear from above:) How has your involvement in XYZ programme influenced your subsequent investment decisions?</li> <li>- Are there other factors, beyond your experience of this project, which have influenced your investment decisions since? Can you explain the effect they had on you?</li> </ul>	Testing for outcomes

## Learning from XYZ programme

Would you say that you learned anything from your experience of your investment in XYZ programme? If so, what was that and how did that change subsequent investment decisions? Can you give me any actual examples of what you learned? What did you do differently as a result?

Are there any documents you could share with me to show any of this? (eg: *business case, prospectus, progress report, marketing materials, investment appraisal documentation, reports/articles in publications/websites*)

And was there anything about your involvement in XYZ programme that reduced your enthusiasm for investing in similar projects?

*(Explore the mechanisms and relevant contexts for the answers respondent gives at this stage using list below. When complete on what respondent has already mentioned, move on to explore remaining mechanisms as appropriate. Ask for any relevant documents at each point.)*

Now I'd like to take us through some of the thoughts we have on other things investors have experienced and learned, and how it has affected future decisions they make. If these don't apply to you, we'd like to understand why not – was it because the programme didn't provide evidence, or because you already knew that, or some other reason?

### Transaction costs

Did XYZ programme give you evidence to help you understand the transaction costs? What were these? (e.g. due diligence, PPAs/standardised contracts, etc). Did understanding the transaction costs on XYZ project give you confidence that they are predictable and at an acceptable level? If so, how did XYZ project demonstrate this to you? What was it about XYZ project that gave you confidence that transaction costs would be predictable/acceptable in future projects?

### Demand

Did XYZ programme demonstrate that there is a demand for the product/service or supply? If so, how did it show that? Did that help you understand the main drivers of demand and the scale of the potential market? How did that affect your view of the market? Did it make it more attractive to you? In what way?

### RoI

Did your experience on XYZ programme demonstrate to you that a profit can be made in the desired timeframe? How did it show you that? To what extent did it help you understand the scale of returns available? And did that give you confidence that profits and RoI are acceptable? What was particularly important to you and how did it show you that?

### Credit risk

Did XYZ programme give you confidence that sufficient cash flow will be available and that the credit risk is sufficiently low? How did it do that? What specific elements made a difference to your confidence, if any?

### Track record

Did your experience on XYZ programme help you build a track record which has made it easier for you to borrow money or secure investment for future projects? What was it about your experience that these investors were looking for? What exactly gave them the confidence to lend you money, or to invest in your projects?

### Financial structures

Did XYZ programme demonstrate a particular financial structure to you, and show that it works? If so, what was that? Did that enable you to design a suitable structure for future investments and if so, how? What was it about that structure that gave you the confidence? What was different about it?

Testing for mechanisms

<p><b>Supply chain</b> Did XYZ programme show you that there is a supply chain in place? What elements of that supply chain were important to you – e.g. skilled workers, local suppliers of parts, etc.? Did you gain an understanding of the availability and risks, and did this give you confidence to design future projects? What was it about the supply chain that was important to you and how did XYZ programme help you understand it?</p> <p><b>Sector/country specific factors</b> Did XYZ programme give you evidence about the risks and returns specific to the country or technology? Did that give you confidence in your ability to appraise the risks and returns of the investment? What was it about XYZ programme that helped you do this? What did you learn, and how did that affect future decisions on investments? To what extent was your view of the investment climate in that country/sector shaped by your experience on XYZ programme?</p> <p><b>Credible actors</b> To what extent if at all do you think your initial and any subsequent investment decision is/was based on knowing that other investors like you are involved in such projects? If so, what does ‘investors like you’ mean to you in that context? Are you able to trust such investors more than others? What makes you say that?</p> <p><b>ESG</b> Did XYZ programme demonstrate any new environmental, social or governance standards to you? If so, what exactly were they and how did the programme demonstrate them? And what was it about them that was new? Why did the standards make a difference? To what extent do you feel confident to implement them in your next investment? Is there anything about these standards that makes you unwilling to implement them in future?</p>	Testing for mechanisms
<p><b>Communications theory testing</b></p> <p>We are exploring ideas about the most effective ways people learn about investments and then go on to act on that learning – is it through personal, hands-on experience, word of mouth, published materials, formal communications or something else?</p> <p>Based on your experience, would you say that someone who has had a hands-on experience with a programme, as you have had, is more likely to act on the learning than someone who has learned about it from other sources? What exactly does the hands-on experience bring you which makes the difference?</p> <p>If you had heard about what this programme has done from someone else, or through published material, rather than being directly involved in it yourself, how do you think that would have affected your subsequent investment decisions? Why do you say that?</p> <p>How do you think the UK government should communicate the learnings from its programming and investments? Which would be the most effective way to influence investors?</p>	Exploring ways of learning

<p><b>Communicating about XYZ programme to others</b></p> <ul style="list-style-type: none"> <li>- Do you think others are aware of your investment activity and have they been influenced by it? If so, how do you think they heard about it?</li> <li>- Have you talked to other investors about your experience of this project, or written about it in published material? If so, to whom and in what contexts? What sort of things have you said about it?</li> <li>- If you haven't talked to other investors about it, why not?</li> <li>- Do you know how/whether these people have reacted to what you have told them? Do you think what you have said has influenced any other people's investment decisions? If so, can you give examples?</li> <li>- If you don't think what you've said has had an effect, can you say why not?</li> <li>- Do you think this programme has influenced the wider investment community's willingness to invest in projects which address climate change issues? Can you point to any market changes it has helped to catalyse?</li> </ul>	Exploring communication
<p><b>Further contacts</b></p> <ul style="list-style-type: none"> <li>- We'd like to talk to private investors who may have been influenced by learning about the programme into making investments on commercial terms into projects which address climate change issues, without or with less funding from governments or development banks. Can you put us in touch with anyone you have spoken to or who you think may have been influenced by learning about your experience?</li> </ul>	Snowballing

### And finally ...

Thank you very much for your help. Just to finish off:

Is there anything that you think we should have discussed but haven't covered?	To ensure we capture anything that wasn't on our radar
<p>Are there any important documents that you think we should review (in addition to any already mentioned)?</p> <p>For example, documentation on the financial structure of follow-on projects, standardised contracts, prospectuses, progress reports, publicity, annual reports, etc.</p> <p>Also anything listed in the PIS.</p>	To find additional sources of evidence
Is there anyone else that you think we should speak to? May I get back in touch with you if I have any other questions?	To find additional informants

## 5.4 Topic guide for institutional investors

Programme	Topic guide created by	Date

Interviewee	Interviewer	Date of interview	Time of interview
Individuals or foundations, pension funds, insurance companies, etc., investing into a fund or other financial intermediary which invests in LCCR projects or businesses			

### Introduction

*Adapt as appropriate to the interview*

#### **Thank you very much for agreeing to help.**

We are working for the UK government looking at the way they consider climate change in overseas aid projects, and how they try to influence the market for climate finance in developing countries. We are exploring whether and how some of their programmes are showing private investors that it can be viable to invest in projects that address climate change issues. We're particularly interested in instances when private investors make these investments on commercial terms, that is without any funding from governments or development banks.

We have been looking at XYZ programme/fund, which you have invested in, so we're keen to learn about your experience of the project and what you've done since, and if you're aware of any broader impacts the programme has had.

During our conversation, sometimes I'm probably going to ask you some questions which might seem to have really obvious answers, but that's because I do need to check our understanding and make sure I get your views rather than assuming anything. I hope you will bear with me!

I'm planning to record our conversation so that I don't miss anything. What you say is confidential to this evaluation team, but we may include anonymised quotes in our report. Is that OK with you? The report should be published later in 2019.



## Institutional investors

Where investors are open to the idea of investing in LCCR funds and where there is evidence from ICF programmes that improves their understanding of transaction costs, the potential return on investment, fund manager track records, and that they are co-investing with similar investors, this provides them with confidence that they can assess the risks and returns with sufficient accuracy which, in turn, enables them to make a decision about investing in sector funds.

<p><b>Introduction</b></p> <ul style="list-style-type: none"> <li>- Please could we start with a brief introduction to you and your involvement with XYZ programme/fund? How and why did you first get involved? Can you remember and describe what influenced your initial investment decision?</li> <li>- Have you previously invested in other projects which address climate change issues?</li> <li>- Were you aware of UK government finance involvement and did that involvement influence your decision? If yes, would you have invested if it, or other development finance, was not present?</li> </ul>	Exploring background to initial investment
<p><b>Investment focus</b></p> <ul style="list-style-type: none"> <li>- What sectors and countries do you invest in? How would you describe your business focus? (e.g. is it solar in Uganda, renewables in Africa, energy in developing countries, infrastructure anywhere or just profitable investments?)</li> <li>- What do you need to know about a specific sector/country when you make investment decisions? How do you get that information, and what makes you trust it or not? How important is personal experience in this?</li> <li>- How do you tell that the enabling and political conditions in the country are favourable? What do you need to know and how do you find that out? What does 'favourable' actually look like to you?</li> <li>- Does the presence of concessional or development finance (that is, finance from UK or other governments, or development banks) influence your decision?</li> <li>- How important, if at all, is an independent rating for what you invest in?</li> </ul>	Testing for contexts
<p><b>Experience of XYZ programme/fund</b></p> <ul style="list-style-type: none"> <li>- How would you describe your experience of the programme/fund? What makes you say that?</li> <li>- Is there anything about investing in this programme/fund that is/has been different from other investments you've made? If so, what was that, and what was the result?</li> </ul>	Testing for contexts
<p><b>Investment since XYZ programme</b></p> <ul style="list-style-type: none"> <li>- Could you tell me about your investment decisions since your investment in XYZ project?</li> <li>- I'm particularly interested in cases where you've invested on commercial terms, with less or no funding from governments or development banks:             <ul style="list-style-type: none"> <li>- <b>Replicated with less development finance:</b> <ul style="list-style-type: none"> <li>Have you gone on to make any further investments in climate change projects without or with less funding from governments or development banks? Or do you intend to do this? If so, can you tell me about these investments?                 <ul style="list-style-type: none"> <li>• How much was your investment and into what projects? Was it debt and/or equity?</li> <li>• How much was invested by other private investors? Who were they? Was it debt and/or equity?</li> <li>• Why do you think you were willing to make such further investments?</li> <li>• Can you say what influenced you?</li> </ul> </li> </ul> </li> </ul> </li> </ul>	Testing for outcomes

<p>- <b>Considering replicating with less development finance:</b> What are you considering? What does your decision about proceeding or not depend on?</p> <p>- <b>Considered but not proceeded:</b> Why have you not proceeded? Is there anything that would have made it more likely that you would make such further investments? If you considered but rejected a specific project, what was it about that project that was different from XYZ programme?</p> <p>- <b>Not considered:</b> Why have you not considered the idea of such further investments? If not, why not? Have you come across opportunities? Is there anything that would have made it more likely that you would consider doing so?</p> <p>- <b>Reinvested with same/more development finance:</b> Have you made further investments in projects with the same or increased level of funding from governments or development banks?</p> <p><b>Other</b></p> <p>- (If not already clear from above:) How has your involvement in XYZ programme/fund influenced your subsequent investment decisions?</p> <p>- Are there other factors, beyond your experience of this project, which have influenced your investment decisions since? Can you explain the effect they had on you?</p>	Testing for outcomes
<p><b>Learning from XYZ programme/fund</b></p> <p>Would you say that you learned anything from your experience of investing in XYZ programme/fund? If so, what was that and how did that change subsequent investment decisions? Can you give me any actual examples of what you learned? What did you do differently as a result?</p> <p>Are there any documents you could share with me to show any of this? (eg: <i>business case, prospectus, progress report, marketing materials, investment appraisal documentation, reports/articles in publications/websites?</i>)</p> <p>And was there anything about your involvement in XYZ programme/fund that reduced your enthusiasm for investing in similar projects?</p> <p><i>(Explore the mechanisms and relevant contexts for the answers respondent gives at this stage using list below. When complete on what respondent has already mentioned, move on to explore remaining mechanisms as appropriate. Ask for any relevant documents at each point.)</i></p> <p>Now I'd like to take us through some of the thoughts we have on other things investors have experienced and learned, and how it has affected future decisions they make. If these don't apply to you, we'd like to understand why not – was it because the programme didn't provide evidence, or because you already knew that, or some other reason</p>	Testing for mechanisms

**Transaction costs**

Did XYZ programme give you evidence to help you understand the transaction costs? What were these? (e.g. ESG compliance, due diligence, PPAs/standardised contracts, etc.). Did understanding the transaction costs on XYZ project give you confidence that they are predictable and at an acceptable level? If so, how did XYZ project demonstrate this to you? What was it about XYZ project that gave you confidence that transaction costs would be predictable/acceptable in future projects?

**Roi**

Did your investment in XYZ programme/fund demonstrate to you that a profit can be made in the desired timeframe? How did it show you that? To what extent did it help you understand the scale of returns available? And did that give you confidence that profits and Roi are acceptable? What was particularly important to you and how did it show you that?

**Track record**

Did your investment in XYZ programme/fund show a track record of fund managers delivering returns which has made it more likely that you will provide investment for future projects? What was it about the fund manager that you were looking for (e.g. reaching close, making strategic investments)? What exactly gave you the confidence to invest in the projects?

**Sector/country specific factors**

Did XYZ program/fund give you evidence about the risks and returns specific to the country or technology? Did that give you confidence in your ability to appraise and manage the risks? What was it about XYZ programme/fund that helped you do this? What did you learn, and how did that affect future decisions on investments? To what extent was your view of the investment climate in that country/sector shaped by your experience on XYZ programme/fund?

**Credible actors**

To what extent if at all do you think your initial and any subsequent investment decision is/was based on knowing that other investors like you are involved in such projects? If so, what does 'investors like you' mean to you in that context? Are you able to trust such investors more than others? To what extent does their size and experience matter? What makes you say that?

**ESG**

Did XYZ programme demonstrate any new environmental, social or governance standards to you? If so, what exactly were they and how did the programme demonstrate them? And what was it about them that was new? Why did the standards make a difference? To what extent do you feel confident to require them in your next investment? Is there anything about these standards that makes you unwilling to require them in future?

## Testing for mechanisms

<p><b>Communications theory testing</b></p> <p>We are exploring ideas about the most effective ways people learn about investments and then go on to act on that learning – is it through personal, direct experience, word of mouth, published materials, formal communications or something else?</p> <p>Based on your experience, would you say that someone who has invested into a programme/fund, as you have done, is more likely to act on the learning than someone who has learned about it from other sources? What exactly does the direct investment experience bring you which makes the difference?</p> <p>If you had heard about what this programme/fund has done from someone else, or through published material, rather than having invested in it yourself, how do you think that would have affected your subsequent investment decisions? Why do you say that?</p> <p>How do you think the UK government should communicate the learnings from its programming and investments? Which would be the most effective way to influence investors?</p>	Exploring ways of learning
<p><b>Communicating about XYZ programme to others</b></p> <ul style="list-style-type: none"> <li>- Do you think others are aware of your investment activity and have they been influenced by it? If so, how do you think they heard about it?</li> <li>- Have you talked to other investors about your experience of this project, or written about it in published material? If so, to whom and in what contexts? What sort of things have you said about it?</li> <li>- If you haven't talked to other investors about it, why not?</li> <li>- Do you know how/whether these people have reacted to what you have told them? Do you think what you have said has influenced any other people's investment decisions? If so, can you give examples?</li> <li>- If you don't think what you've said has had an effect, can you say why not?</li> <li>- Do you think this programme/fund has influenced the wider investment community's willingness to invest in projects which address climate change issues? Can you point to any market changes it has helped to catalyse?</li> </ul>	Exploring communication
<p><b>Further contacts</b></p> <ul style="list-style-type: none"> <li>- We'd like to talk to private investors who may have been influenced by learning about the programme into making investments on commercial terms into projects which address climate change issues, without or with less funding from governments or development banks. Can you put us in touch with anyone you have spoken to, or who you think may have been influenced by learning about your experience?</li> </ul>	Snowballing

### And finally ...

Thank you very much for your help. Just to finish off:

Is there anything that you think we should have discussed but haven't covered?

To ensure we capture anything that wasn't on our radar

Are there any important documents that you think we should review (in addition to any already mentioned)? For example, documentation on the financial structure of follow-on projects, standardised contracts, prospectuses, progress reports, publicity, annual reports, etc. Also anything listed in the PIS.

To find additional sources of evidence

Is there anyone else that you think we should speak to? May I get back in touch with you if I have any other questions?

To find additional informants

## 5.5 Topic guide for DFIs

Thank you very much for agreeing to help with our work. As we explained, we are beginning to develop ideas on how and in what circumstances ICF programmes are mobilising private finance into LCCR markets through demonstration effects. This is when LCCR projects are undertaken, or funds established to invest in them, without or with less development finance as a result of evidence from ICF supported projects. During the interview, I'm hoping to test out some of our early ideas with you so you can help us to refine them in the light of your and others' experience at [name of DFI].

I'm planning to record our conversation so that I can make sure I don't miss anything. We may also include anonymised quotes in our report, is that OK with you? The report will be published later in 2019.

### **Introduction**

Please could we start with a brief introduction to you and your job role? What particular areas are you currently working on/have you worked on in the past?

What does the concept of a demonstration effect mean to you, if anything, in the context of the aim to mobilise private finance? Does your organisation have a definition for demonstration effects? Are you personally involved in demonstration effects, for example designing/selecting/monitoring/evaluating programmes which create demonstration effects to mobilise private finance?

### **Demonstration effects created by [name of DFI] programmes**

To what extent do [name of DFI]'s programmes aim to mobilise private finance through demonstration effects? Can you give me examples?

*[For those examples]* Who is intended to replicate what? Which investor types are being targeted? What works best for whom and how? Can you tell me about how demonstration effects are communicated? To whom? By whom? Through what channels?

Is the creation of demonstration effects used to justify DFI's intervention? Is there a methodology for estimating anticipated demonstration effects or monitoring the demonstration effects that are achieved? What evidence is collected?

*[Unless answered above]* Do you monitor whether private finance has been mobilised through demonstration effects? If so, can you share any results?

Roughly what proportion of the [name of DFI] investments are considered to have had a demonstration effect? In what circumstances does this work best, for whom and how?

### **Theory-based questions**

The relevant theories will be tested along the following lines, dependent upon what has emerged during earlier discussions, reflecting what the respondent has told us they are attempting to achieve.

1. *(If not established previously)* Are you aware of examples where a demonstration effect has successfully mobilised private finance? Why have these examples worked?
2. What about examples where it hasn't? Why have these examples not worked? (testing outcomes)
3. Why do you think that demonstration effects worked successfully and were replicated in those examples? Why do you think it/they weren't in the others? (testing mechanisms)
4. What was it that means that XX happened in cases where a demonstration effect was successful? What about where it was not?

Based on answers to the above, we will explain our initial thinking (theories) on the appropriate areas, and test respondents' reactions in the light of their experience.

**Wrapping up**

Are there any important documents, databases or other sources of information that you think we should review or anyone in particular that you think we should speak to in another team?

*If respondent is in syndication, ask for contact in monitoring and evaluation*

*If respondent is in monitoring and evaluation, ask for contact in syndication*

*Contacts in other funders*

*Contacts amongst replicators/potential replicators*

*Evaluators who assessed demonstration effects for [name of DFI]*

Is there anything else that would be useful to discuss at this stage? We may be using a case study approach at a later stage in the evaluation - may I have your permission to contact you again if necessary?

## 5.6 Example snowballing spreadsheet

**Table 8:** Example snowballing spreadsheet

Date Interview Completed	Programme /Case study	PE2 team member	Name	Organisation	Contact details	Job role	Investor type	Programme partner or replicator?	Which theory/ies?	Referrer name	Reason for referral	Outcome	Notes on contact history	Did they communicate their experience?	Investment activity since initial project	Amount invested by respondent	Debt/equity/both/other	Type of business	Location	Short description of project/s, investors and level of concessionality
XX/XX/XX	Blogg Programme	Debra	Jane Bloggs	Blogg Co.	<a href="mailto:jane@bloggs.com">jane@bloggs.com</a>	Consultant	Private business/developer	Programme partner	1,2,3,4,5	Joe Bloggs	Jane was involved in the facility	Interviewed	First contacted Jane on XX/XX, asking for interview on X [date]. She responded, agreeing to interview on XX/XX.	Yes	Replicated with less DF	\$5 million	Equity	Private business / developer		

## 5.7 Example recruitment email

Dear \*X\*,

ABC of FGH company [insert if this exists] recommended that I contact you to ask for your help.

We are working for the UK government, looking at how they consider climate change in overseas aid projects, and how they try to influence the market for climate finance in developing countries. Our particular focus is how investors may be influenced by their own knowledge of recent investments by others in these markets.

We know that you [state reason for interviewing] so we'd be very interested to hear from you about what influences your investment decisions. Sharing your thoughts shared could be extremely valuable in helping to shape future UK government investment.

We would be very grateful if you would agree to talk to our analyst XX (cc'd) over the phone. The interview would take no longer than one hour and would feed into an evaluation report which will be published towards the end of 2019, of which we can send you a copy. The report will be anonymised and there will be no commercially sensitive data published or shared outside the evaluation team.

I do hope you are willing to talk to us. If so, would you be available for the call at [suggest time and date]?

Kind regards,

\*XXX\*

## 5.8 MaxQDA codes

**Table 9:** Number of codes in MaxQDA for context, mechanism and outcome (CMO)

Code type	Number of codes
Context	281
Mechanism	643
Outcome	243

**Table 10:** Number of codes in MaxQDA by theory

By theory	Number of codes
Businesses and developers	386
Direct investors	307
Fund managers	106
Institutional investors	298
Unintended consequences	74
Transformation	47

**Table 11:** Number of codes in MaxQDA for different types of communication of demonstration effects

Communication	Number of codes
Project partner	43
Word-of-mouth	27
Formal HMG communications	28
Wider market	21
Programme-led convening	7

## 5.9 Sample MaxQDA analysis

Segments (or ‘nuggets’) of text were coded against a pre-defined (but regularly reviewed and evolving) set of codes. These codes, seen in the bottom right hand side of the image, represent our theories, contexts, mechanisms, outcomes, and other useful categories.

Segments of text containing evidence of private finance mobilisation as a result of demonstration effect were coded as ‘outcome’. The orange ‘mechanism’ codes were assigned to segments containing evidence that one of our hypothesised mechanisms were operating. The yellow ‘theory’ codes were assigned alongside the other codes to indicate which of our theories the coding relates to. For example, the first coded segment in the image is simultaneously coded as ‘context’ and ‘direct investors’. This means that the highlighted segment contains some information relating to a context that is relevant to the direct investors theory.



Image 1: Sample Max QDA Analysis

The screenshot displays the Max QDA software interface for a document analysis project. The top menu bar includes Home, Import, Codes, Variables, Analysis, Mixed Methods, Visual Tools, and Reports. The toolbar contains icons for document management (New Project, Open Project, Document System, Code System, Document Browser, Retrieved Segments, Logbook, Teamwork) and project operations (Save Project As, Save Anonymized Project As, Project from Activated Documents, Merge Projects, Open Exchange File, Export Exchange File, External Files).

The Document Browser on the left shows a tree view of documents and codes. The 'Documents' folder contains 3,303 items, including Interview transcripts (2,838), Programme Documentation (397), Non-programme Documents (50), and Email Questionnaires (18). The 'Sets' folder contains 3,325 items, including DFI (84), Institutional Investors Cases (354), and Uganda Case Study (13). The 'Code System' folder contains 3,303 items, including Theories 2.0 (0), Theory (0), Businesses and Direct Investors (386), Direct Investors (310), Institutional Investors (362), Fund Managers (96), Unintended Consequences (74), Transformation (48), Context (292), Mechanism (0), Trust (2), Business model (77), Demand (58), Track record (60), and FOMO (3).

The central text editor displays four paragraphs of placeholder text (Lorem ipsum) with blue highlights. The right-hand pane shows a vertical timeline with colored lines representing code segments mapped to the text. The bottom status bar shows a 'Simple Coding Query (OR combination of codes)'.

## 6 Potential for the use of QCA

### 6.1 What is QCA?

Befani and Baptist<sup>16</sup> describe Qualitative Comparative Analysis (QCA) as follows:

*“[A] case-based method which allows evaluators to identify different combinations of factors that are critical to a given outcome, in a given context. This allows for a more nuanced understanding of how different combinations of factors can lead to success, and the influence context can have on success.*

*QCA allows evaluators to test theories of change and answer the question ‘what works best, why and under what circumstances’ in a way that emerges directly from the empirical analysis, that can be replicated by other researchers, and is generalizable to other contexts.”*

QCA uses Boolean algebra to test whether, and in what combinations, particular conditions are associated with specific outcomes. The approach is effective with any number of cases.

The use of QCA for this evaluation was considered by the Evaluation Steering Group. This could have been:

- As part of the theory development stage of the work, to identify contexts that are associated with the mobilisation of private finance.
- As part of the theory testing stage of the work, to support or refute the theories of change that describe how and in what circumstances private finance has been mobilised through demonstration effects.

### 6.2 Using QCA for theory development

**Data to allow the use of QCA at the theory development stage of this project was not available so the approach could not have been used at this stage.**

In order to use QCA to develop theory we would have needed to:

- **Determine the level of analysis**, i.e. what constitutes a case. This could have been a programme or it could have been a specific instance where investment took place, or not. Programmes could have mobilised private finance in some projects where demonstration effects had been communicated and not in others, therefore it is likely that individual projects would have been the case for analysis. We had not identified projects at the theory development stage.
- **Define what is meant by success and failure** - defining success would have been relatively straightforward (private finance being mobilised in follow-on projects), but it would have been harder to define failure – it could have been follow-on projects that did not mobilise private finance or the absence of follow-on projects.
- **Identify cases for analysis** - this would include success and failure. However, ICF programmes do not monitor follow-on projects or whether they have mobilised private finance. Therefore, we would not have been able to identify cases for analysis.
- **Identify the conditions in place** at the time of the mobilisation of private finance. A necessary condition for private finance to be mobilised through demonstration effects is that a demonstration effect was communicated so that it could influence the follow-on project. ICF programmes do not monitor whether demonstration effects are communicated.

<sup>16</sup> Befani and Baptist, Qualitative Comparative Analysis – a rigorous qualitative method for assessing impact, Coffey, June 2015.

Therefore, it would not have been possible to conduct QCA for theory development as we would not have been able to identify cases where private finance was mobilised for follow-on projects, or where demonstration effects were communicated.

## 6.3 Using QCA for theory testing

**QCA could have been used to test the final theories of change and, in particular, to identify the contexts that cause particular mechanisms to fire.**

We would be using QCA in the context of a realist evaluation, consequently we would need to design the analysis to test the refined CMO configurations that have been produced from the realist synthesis process.

The realist conception of causality is that outcomes are generated by mechanisms which are triggered when certain contexts are present. In a realist analysis, the contexts cause a mechanism to fire rather than generate an outcome directly, therefore this is the relationship that we would want to explore using QCA.

The CMO configurations in section 9 of the Technical Report describe the theory about how and in what circumstances demonstration effects mobilise private finance for LCCR projects. They include theory about the contexts that trigger mechanisms which mobilise private finance, and the contexts that trigger mechanisms that do not mobilise private finance.

These configurations draw on evidence from 26 cases from four programmes where private finance was mobilised as a result of demonstration effects, and six programmes where demonstration effects were communicated but private finance was not mobilised. These cases could have been used to form the sample for QCA.

The QCA would have been able to draw on evidence from:

- The document review.
- The contextual analysis reported in section 5 of the Technical Report and in Appendices 4 and 5.
- The interviews with SROs and implementing partners in Phase 1.
- The interviews with programme partners and replicators in Phase 2.
- The wider market interviews.

This would provide evidence of the contexts that were present in cases where private finance was mobilised, and those where it was not.

## 6.4 What else would have been needed to conduct QCA?

**It would be feasible to conduct QCA using the data that has already been collected by this study, however, additional resources would have been needed for analysis if QCA had been included in the theory testing approach for this evaluation.**

If we had planned to incorporate QCA for theory testing from the start of this evaluation, we would have made some minor changes to the data collection approach:

- The primary research would have been designed so that interviews could explicitly test the presence of all hypothesised contexts (realist interviews only identify the contexts that cause identified mechanisms to fire).
- As a consequence, interviews might have been slightly longer.
- The interview coding would have captured the presence/absence of all hypothesised contexts.

QCA analysis would have been conducted. As a rough estimate, this would have involved around 30 days of time at a cost of approximately £10,000.

## 6.5 Would it have been worthwhile to use QCA?

**QCA could have been used to further validate the findings in this study, triangulating the results of the realist synthesis and process tracing. If QCA were conducted and did not support the findings from realist synthesis, and process tracing further analysis would be conducted to revise the findings in the light of the QCA, this would have improved the quality of the findings.**

The findings in this study have been produced through realist synthesis and process tracing which are rigorous methods, and we are confident in our assessment of the reliability of the results (see section 2.3 'Methodology' of Final Report and section 5 'Method' of the Technical Report). However, another analysis approach would have provided further confidence if it supported the results of the other two approaches.

It is also possible that QCA could have contradicted the results of the process tracing and realist synthesis. In that case, it would have been necessary to explore the data again to understand the reasons for the contradictions and reconcile the results to produce revised findings. This would be particularly valuable as it would provide an opportunity to improve the quality of the results.

## 6.6 References

The following documents have been used in preparing this section:

- Befani and Baptist (2015), *Qualitative Comparative Analysis – a rigorous qualitative method for assessing impact*, Coffey.
- Befani, *Pathways to Change, evaluating development interventions with qualitative comparative analysis (QCA)*, EBA.
- Befani et al (2007), *Realistic Evaluation and QCA*, Evaluation.
- Schlosser et al (2008), *QCA as an approach*, chapter in *Configurational Comparative Methods*, Sage accessed through [www.betterevaluation.org](http://www.betterevaluation.org).
- Gerrits and Verweij (2013), *Critical realism as a meta-framework for understanding the relationships between complexity and qualitative comparative analysis*, *Journal of Critical Realism* 12 (2), pp.166-182.

## 7 Summary for programme leads and SROs

### For SROs and others designing ICF programmes which aim to mobilise private finance

Could your programme provide evidence to reassure private investors that it can be viable to invest in projects which aim to drive a long-term solution to climate change? If so, it could contribute through demonstration effects to the mobilisation of private finance investments into future climate-related projects, with less or no need for development finance. The Compass evaluation generated lessons that can help programmes to maximise the impact of demonstration effects.

#### Who are the demonstration effects relevant to?

Individual programmes attract various types of investor. Each investor type makes decisions in different situations and with different results. Demonstration effects work in different ways for each.

The table below shows which demonstration effects have been effective in mobilising investment in climate-related projects by different investors. If your programme aims to attract these types of investor, evidence from your demonstration programme on the specific aspects listed is likely to provide investors with confidence that a future investment in such a project could be viable. The relevant section of the evaluation report gives examples and further information.

Investor type	Demonstration effects that have contributed to the mobilisation of private finance	Compass PE2 evaluation report section
Businesses and developers	Demand, business model, track record	5.2.1
Direct investors	Business model, track record, compliance, trust	5.2.2
Fund managers	Business model	5.2.3
Institutional investors	Business model, risk, trust	5.2.4

Aspect demonstrated	Programme demonstrates that	Compass PE2 evaluation report section
Demand	There is demand for the products or services being offered.	5.1.1
Business model	The business model is effective in satisfying that demand at a profit, showing that elements such as financial structure, supply chain, marketing, fulfilment and payment can work.	5.1.2
Track record	The investee can deliver results over time.	5.1.3
Compliance	The project is capable of meeting desired reporting and/or ESG standards.	5.1.4
Risk	Risks can be assessed with acceptable levels of confidence.	5.1.5
Trust	Other trusted investors are involved.	5.1.6