Foreign, Commonwealth & Development Office

British International Investment

Executive Summary

Evaluating the Impact of British International Investment's Infrastructure Portfolio

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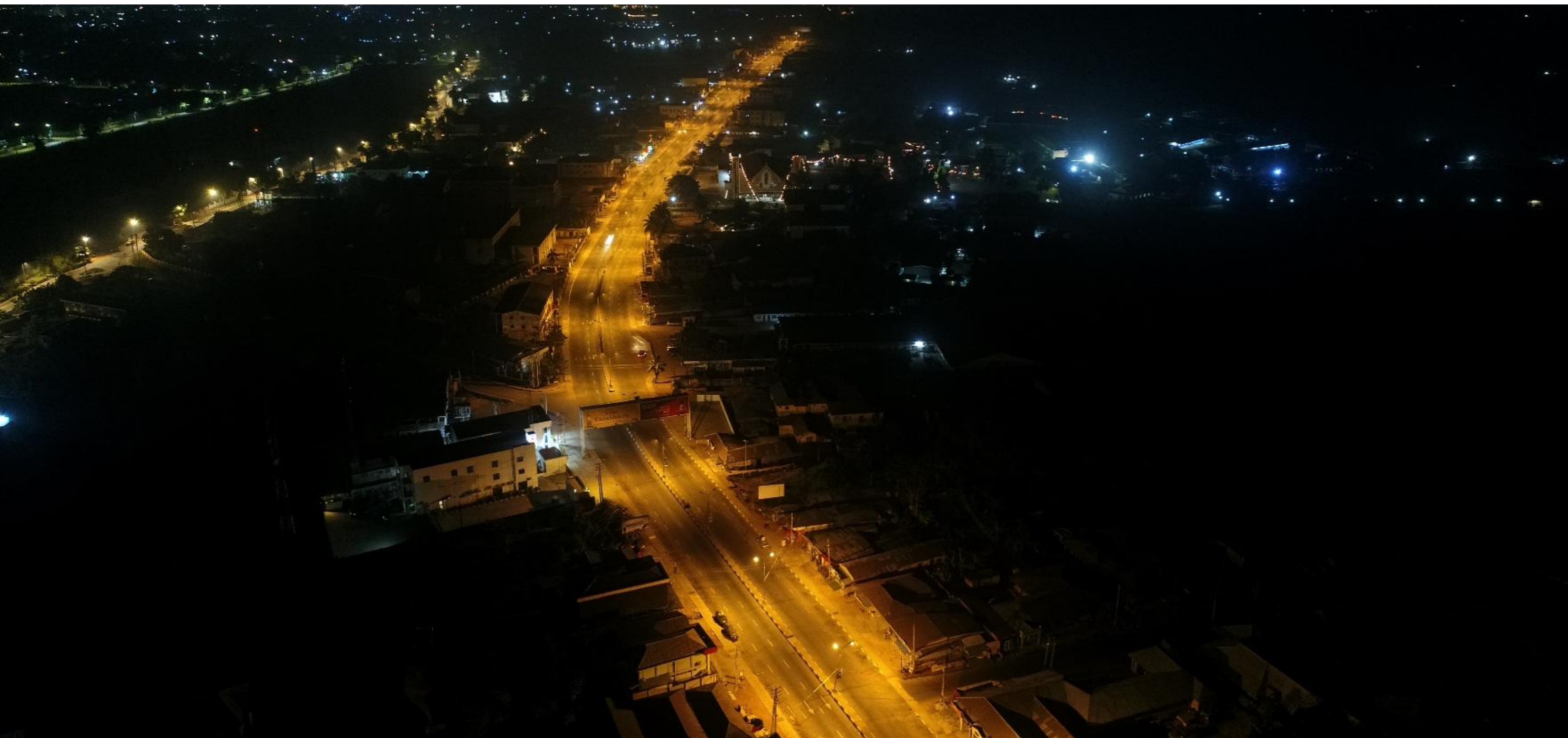

Executive Summary

Introduction and scope

The Foreign, Commonwealth & Development Office (FCDO) commissioned Itad, Steward Redqueen and the Overseas Development Institute (ODI), to evaluate British International Investment's (BII)[1] investments in the infrastructure[2] portfolio. The objective of this evaluation is to achieve a better understanding of the development impact (DI) of BII's infrastructure portfolio. The analysis covers all current BII debt and equity investments in the infrastructure portfolio and exits since 2011, and the underlying holdings of 15 infrastructure-focused funds that are in the core geographies of Africa and South Asia. Infrastructure assets held by generalist funds are not included in the analysis presented.

The first phase of this evaluation consists of a Portfolio Review and an Evidence Review, both of which are covered in this Formal Evaluation Report. The second phase will consist of a series of in-depth studies.

Methodology

This report synthesises the results of an Evidence Review and a Portfolio Review. In the Evidence Review, insights from existing literature and sources are summarised and, where possible, amalgamated into provisional evidence rules that allow estimation of ultimate impacts. In the Portfolio Review, information contained in available BII investment documents has been collated to form a single database of investee observations, to which data from 16 external sources has been added.

Where no direct observations were available, estimations of ultimate impacts per investment were made using evidence rules (developed from the Evidence Review) in combination with portfolio and external data. Analysis of outcomes and impacts achieved by the investments on this basis are included at portfolio level and thematically in this report. The non-financial value added that BII provides to its investees is captured through a high-level inventory of its activities in the areas of Business Integrity (BI), Environmental, Social and Governance (ESG) and Technical Assistance (TA) (BII Plus). Based on the observed and estimated impacts, we draw conclusions and recommendations on the first phase of the evaluation of the infrastructure portfolio. These findings are also a starting point for the second phase, in which BII aims to deepen its understanding of interventions in different sectors, countries and thematic areas.

Portfolio overview

Infrastructure currently makes up 28% of BII's active portfolio. This Portfolio Review encompasses 14 direct equity investments, 25 direct debt investments and 15 infrastructure-focused fund investments. This scope covers US$2,345 million – of which US$1,743 million is in direct investments and US$602 million is in infrastructure fund investments – that BII has invested in infrastructure since 2007. In total, the 194 investee companies manage 295 assets. As per 31 December 2020,[3] a total of US$2,146 million[4] is still active. Total infrastructure commitments are US$3,352 million, of which US$1,936 million goes to direct investments and US$1,416 million goes to infrastructure funds. This scope excludes 54 investments

[1] From 4 April 2022 CDC changed its name to British International Investment (BII).

[2] Over the course of this evaluation the BII team was reorganised to combine infrastructure and climate. Although climate is one of the themes addressed in this report, the evaluation concerns only BII's past infrastructure work.

[3] Specifically, all BII infrastructure investments into power, transport, ICT and water that were committed between 3 December 2007 and 30 August 2020, are in scope. For these investments, disbursed amounts are as per 30 January 2021.

[4] Excluding double counts, e.g. Globeleq was invested in indirectly through Actis in 2009 and directly in 2015. Active portfolio refers to current, partially realised and written down deals, but excludes fully realised and written off deals.

that were made through 38 generalist funds with aggregate disbursements of US$157 million. Over the past 6–7 years, BII has substantially grown its infrastructure portfolio, primarily through direct investments. Below are some portfolio characteristics:

- In terms of sectors, by value, 70% of the portfolio is in Power, 22% in Information Communications Technology (ICT) and 8% in Transport. In Water, Sanitation and Hygiene (WASH), only one direct investment has been made but the sector is a strategic priority going forward.
- In terms of regions, 66% of BII's capital has been disbursed in Africa and 34% in Asia. Ten countries constitute 75% of disbursed capital. In six of those, BII has invested in two or more sectors.
- In terms of investment product, 43% of the infrastructure portfolio is direct equity, 31% is direct debt and 26% is invested through infrastructure funds.

Evidence Review

The Evidence Review identified over 450 studies through systematic online searches, of which 331 were of sufficient quality to be included. The strength of the evidence is rated based on the number of studies. Evidence rules were distilled where quality and homogeneity of evidence allowed it. In total, 22 evidence rules translate impact pathways into quantitative impacts, of which six were applied to investments in the BII portfolio.[5] They were used when there was not a more appropriate existing estimation methodology, and when the necessary BII monitoring data was available.

With reference to the BII Infrastructure Impact Framework, the evidence base is stronger for *ultimate impacts* and for some *impact pathways* than it is for *outcomes*. There is strong evidence linking infrastructure investments to four of the results in the impact framework (*greater productivity*, *economic opportunity*, *standard of living* and *environmental sustainability*) – three at *ultimate impact* level and one at *outcome* level. The evidence for these indicated a positive relationship between the investment and the result. There is more evidence available at *outcome* level for the Transport sector than for other sectors.

Development Impact across the portfolio

Portfolio aggregate development impact

By combining investment data, external sources and six evidence rules (see Section 4), we have estimated the aggregate outputs, outcomes and impacts of the BII portfolio across the infrastructure impact framework. Impacts have been estimated individually for all 295 assets in BII's portfolio based on the development results of the investees. This does not account for BII's contribution to investees' results, and some large impacts are associated with small BII investments in which BII has a small effective stake. Across the portfolio, BII investees covered by the scope of this report[6]:

- Reach 152 million consumers, or one in every twenty people living in Africa and South Asia;
- Support 3.5 million indirect[7] jobs, which is roughly equivalent to the working population of the Kampala metropolitan area;
- Generate US$17.6 billion of value added annually (i.e. contribution to GDP),[8] which is about the same as the GDP of, again, Kampala's metropolitan area.

[5] Refer to Table 2 for the variables for which evidence rules were applied.

[6] Figures based on contribution at the time of research; The numbers stated here cannot be compared to BII's latest annual report because it includes exited investments, projected impacts of assets under construction.

[7] This covers all indirect effects (indirect, induced and enabled).

[8] This is a shift of GDP to a higher level but it does not affect the GDP growth rate.

The distribution of these impacts (portfolio total, not adjusted for number or size of investees, or BII attribution[9]) is largely in line with BII's geographical and sectoral allocation. In summary, in terms of jobs supported and GDP impact:

- ± 65% of the impact comes from investees located in Africa;
- ± 65% comes from fund investee companies[10] and 35% from direct investments;[11]
- ± 50% of the impact of direct investments comes from equity investments and the remainder from debt;
- ± 55% of the impact will come from greenfield and brownfield expansion projects once they become operational;
- ± 55% of the impact comes from the power sector with the independent power producers (IPP) sub-sector being responsible for some 95% of the impact within the power sector;[12]
- ± 40% of the impact of IPPs comes from renewable technologies.

Portfolio impact pathways

The most frequent impact pathways in the portfolio are the provision of *additional capacity*, *improved service delivery* and *reduced prices*. IPPs that provide lower-cost energy than the average countrywide generation make the largest contribution to these pathways. Furthermore, BII's investees *reach* an estimated two million households by providing connections to electricity and broadband.[13] BII contributes to the provision of *cleaner capacity* through investments in renewable energy assets, and it increases *resource efficiency* through the lowering of power distribution losses in its transmission and distribution (T&D) portfolio. Finally, *climate smart infrastructure* is an additional impact pathway part of BII's infrastructure impact framework. However, no consideration linked to the climate resilience of the infrastructure assets was identified in the portfolio.

Performance against the DI thesis

The evaluation team has assessed the extent to which BII investments are on track to realise the DI thesis that was set at the time of making the investment. Almost all of the 39 direct and 15 fund investments[14] have been evaluated against their respective DI theses based on whether they: (i) had achieved the impact targets (within a reasonable range) as articulated in the DI thesis; and (ii) had a reasonable chance to reach the intended targets given the amount of time remaining until the intended DI target date.

Excluding nine investments which were too early to assess, 36 out of 45 investments (80%) are on track or have outperformed their DI thesis (with two excellent scores). One of the nine investments that is not on track is judged to be a failure. In aggregate:

- Investments in Asia score better than in Africa: all nine underperforming assets are located in Africa, while five investments there have over-performed. In Asia, five of the fifteen investments are above expectations or excellent, and the remaining ten are as expected;

[9] For BII attribution see Theme 5.

[10] BII's stake in indirect investments is on average more than five times smaller than direct investments.

[11] The impact of investees which are directly invested in, and through a fund are categorised as direct investments.

[12] The impact of gas investments is not included. To prevent double counting the impact at multiple parts of the value chain, all impact is attributed to the power producer, rather than the gas supply.

[13] This only reflects the number of households where BII's investees are actively involved in reaching new customers. It does not include the number of estimated people reached through the additional IPP capacity, or the customers reached by mobile network operators (MNOs).

[14] Two investments have been excluded: one due to a lack of defined DI metrics and the other because no disbursement has yet been made.

- In summary, most Power investments are on track; seven are below expectations, two are above expectations, one is excellent, and the remaining ten are in line with expectations;
- ICT investments score better than power investments: six are as expected, while two are above expectations;
- Transport investments show most variation: there was one failure, one above expectation and one excellent;
- Debt investments largely perform in line with expectations (13 out of 19), with five below and one above expectations. The performance of equity investments in contrast is much more heterogeneous, ranging from a single failure to two excellent ratings;
- The 14 fund investments show little variation: one is below expectations, eight are as expected and five are above expectations;
- Given the long lead times of many infrastructure investments, it is too early to discern a clear trend over time: pre-2018 and post-2018 investments largely score the same.

It seems that both under-performance and over-performance are mostly driven by internal factors like strategic fit and implementation skills. External macro-economic, geopolitical, and regulatory factors do explain some of the observed under-performance, especially in Africa.

BII's value addition activities

Because of the importance of BI and ESG aspects, especially in infrastructure, the report provides an overview of BII's value addition activities, which is the second pillar of BII inputs besides capital. This pillar also includes value addition through technical assistance and support provided via BII Plus. Because the nature of these interventions is very investment specific, an evaluation of their effectiveness is beyond the scope of this Portfolio Review. BII's main activities in these are as follows:

- The BII risk-based BI due diligence process was performed for all 39 direct investments. For 30 of these, BII's BI team undertook more in-depth interventions to support investees. For funds, the main value-adding activities included annual BI reporting, training, ad hoc advisory and routine monitoring.
- The BII ESG due diligence process was performed for all 39 direct investments and for 23 of these a more detailed process was conducted. Deal-specific interventions were made in nine investments. For funds, the focus was on improving environmental and social management systems (ESMS).
- Ten investee companies in the home solar and C&I sub-sectors received technical assistance worth US$1.25 million. A similar amount went to the support of impact opportunities beyond BII's portfolio.

Portfolio evaluation based on themes

Theme 1: Geography

As referenced above, ten countries constitute 75% of all investment in the infrastructure portfolio, and six countries have substantial investments in two or more sectors. Ten countries make the greatest contribution to BII's aggregate employment and GDP impact: India, Nigeria, Cameroon, South Africa, Côte d'Ivoire, Gabon, Kenya, Uganda, Bangladesh and Nepal.

BII has categorised the African countries and Indian states into four categories. 'A' countries/states are the hardest to invest in, and 'D' countries/states are the easiest. More than half (53%) of BII's investment is in A/B countries.[15] The share of GDP and employment impact of investee companies in A/B countries is 44%

[15] For US$316 million of investments, no detailed information is available on the exposure to different states within India, nor is the exact location of much relevance for the largest infrastructure subsector, IPPs.

and 56% respectively, in line with the higher employment intensities in poorer countries. In terms of people reached, 65% are in A/B countries. Relative to the size of the country, BII investee companies make the largest impact contribution in Gabon, Cameroon, Ghana, Côte d'Ivoire and Uganda.

Theme 2: BII contribution to private infrastructure investment

Using data from the World Bank Private Sector database, we have determined BII's relative contribution to private sector infrastructure (PPI) investment in all countries. Despite it being the largest destination of BII infrastructure investments, the sheer size of India renders BII's relative contribution small (0.1% of private sector infrastructure investment). Conversely, BII plays an outsized role (around 10%) in Uganda and Cameroon.

BII's relative contribution to private infrastructure investment tells only half the story. In general, more than 80% of private infrastructure investments in emerging markets come in the form of debt, whereas 69% of BII's capital is direct equity or equity through fund investments. This observation is important from a development impact perspective. Whereas debt finance is typically used to finance the construction and operation of assets, equity investments are needed for the early and late development stages of projects; they are inherently riskier and require more intensive engagement from Investment Managers. In many emerging markets, and especially in Africa, the infrastructure gap is caused more by a lack of projects that can be financed than by a lack of finance. BII's willingness to invest in the earlier development stages is therefore a significant source of development impact and demonstrates a willingness to take risks that other development finance institutions (DFIs) might not.

Theme 3: How BII targets investments by country needs

Countries differ widely in terms of their most pressing infrastructure needs in ways that are not adequately captured by the DI grid score that BII has used to rate investments since 2012. To evaluate how effectively BII has targeted these needs, we inferred the relative need of a country for a particular type of investment by ranking the country's performance on indicators that are closely associated with that type of investment. All investments are subsequently grouped into quintiles based on their performance in the country on the chosen targeting indicator. It is worth noting that all countries in which BII is mandated to invest are already identified as being of greater need and that, therefore, this is an additional analysis of comparative need within the investment universe. Relative needs cannot always be inferred from country statistics, especially when the local context is important.

Power and ICT investments cover all quintiles, from large to relatively smaller requirements. However, Transport investments are mostly based in countries where the need for them is smaller. Given the substantial investments in power, and to a lesser extent ICT, that are made in countries that are in the first and second quintile of greatest need, we judge BII's investment targeting for these sectors as reasonably effective from a DI perspective. Transport investments could be better targeted to include countries of greatest need, although the local context is often more important (especially for roads). The method presented here could be adapted to help BII more clearly target areas with the greatest need, while acknowledging that not all public needs can be resolved by the private sector.

Theme 4: Climate

Over time, BII's Power portfolio has been evolving towards renewable energy. About 48% of BII's active IPP portfolio is in renewable energy.

Annual greenhouse gas (GHG) emissions of active operational IPP investments amount to 13.7 million tonnes CO_2 equivalent.[16] The emissions avoided by direct IPP investments are estimated by BII at

[16] Scope 1-2. By also including Scope 3 emissions we estimate that emissions would rise by 30%.

4.8 million tonnes. Including indirect investments, we estimate emission avoidance related to renewable IPPs to increase up to 13.7 million tonnes CO_2 equivalent.

The bulk of emissions of the active portfolio comes from fund investments made before 2013, whereas most avoided emissions come from renewable investments made since 2015. This underscores the shift towards renewables. Using the attribution rules of the BII-signed Partnership for Carbon Accounting Financials (PCAF), BII-attributed GHG emissions and avoided GHG emissions have been calculated at 1.3 million and 0.5 million tonnes, respectively.

Theme 5: Attribution

The above-mentioned capital-based PCAF methodology can also be used to calculate the BII-attributed economic opportunity and standard of living impact. Based on this method, 13%-20% of the cumulative impacts of investees can be attributed to BII. This includes:

- 30.3 million of 152 million people reached by investees;
- 515,000 of 3.5 million jobs supported by investees;
- US$2.3 billion of US$17.6 billion of investees' value added annually (i.e. contribution to GDP).

Using these attributed numbers, we can estimate the effectiveness per dollar of BII investment. We estimate that US$1,000,000 of BII infrastructure investment would support 156 jobs (ongoing while BII is invested) as well as US$1,000,000 of value added annually (i.e. contribution to GDP),[17] or equivalent to US$5 million in the case of a five year BII holding. This estimation indicates that each dollar invested by BII returns itself in the form of value added to the host country in just over one year.

Theme 6: Gender

Since 2018, BII has made a strong commitment to women's economic empowerment, integrated gender into its work as a key cross-cutting area, and taken a leadership role in the 2X Challenge. However, across both BII's internal data and the Evidence Review, there is relatively little evidence on how infrastructure investments lead to specific outcomes and impacts for women and men who are affected by the infrastructure itself. This does not suggest that infrastructure investments do not have a positive effect on women; the absence of evidence likely relates to the methodological challenges of establishing actual uptake of infrastructure services by individuals and therefore of assessing the impacts on affected individuals' standard of living.

Based on the 25% of direct and indirect infrastructure investees that report on it, we estimate that direct women's employment is about 15%, although this increases for solar home system investments based on reporting from three investments. There are six additional gender-related indicators that concern investees' own operations, against which between 21% and 27% of direct infrastructure investees report. However, there are no gender indicators that are both systematically reported against across the infrastructure portfolio, and that relate to *impact pathways, outcomes* or *ultimate impacts* in the impact framework. Additionally, gender does not appear on the impact framework itself.

Four investee companies are qualified with the 2X Challenge criteria, with a further three investees having set gender targets, or developed programmes to improve women's employment. BII has provided technical support to some investees to meet gender objectives and targets.

[17] An asset which supports US$1,000,000 of GDP annually can do so over the entire duration of the investment. In each year of its lifetime the GDP is higher by this amount.

Recommendations

The following recommendations are made based on the implications of the high-level findings and are presented in the same order as the high-level findings (in Section 7.2) to which they relate. They focus on BII activities to measure and manage development impact within the infrastructure portfolio:

1. BII could regularly update the Evidence Review with emerging evidence and the resulting evidence rules that have been extracted from the Evidence Review. We recommend that BII observes caution in the application of evidence rules, which are more appropriately used across the portfolio rather than at individual investment level.
2. We suggest that BII annually reviews portfolio impact data and the extent to which external factors have changed, as well as the associated implications on the actual development impact.
3. We propose that BII determine in which countries it has substantial influence, and how it might use that influence to maximise development impact. For a limited number of countries this could lead to a 'country development approach' document.
4. In identifying and prioritising its potential for development impacts, we suggest that BII reconsiders how it determines the areas of greatest needs for the different types of infrastructure to inform its investment decision-making.
5. We recommend that BII continuously determines how best to navigate the nexus between development impact and a Paris-aligned net zero pathway. BII uses its Guidance Note on natural gas investments. Because country installed stock, available technologies and cost levels of IPPs, T&D networks, country interconnections, electricity storage, and decentralised and off-grid solutions continuously change, so should BII guidance on these matters.
6. We propose that BII formalises its approach to impact attribution and collects the necessary data from its investee companies. A first step could be to apply the PCAF methodology used for GHG emissions.
7. We recommend that BII increases its active monitoring and management of the gendered outcomes and impacts of its infrastructure portfolio. We recommend an increased focus on collecting and using gender-disaggregated results data across investments that relate to the *impact pathways, outcomes* and/or *ultimate impacts* of the impact framework.

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