environmental investigation agency

Profundo
Research & advice

# GCF private climate finance mobilisation

## Understanding the approaches, instruments and outcomes for mobilising private finance for the energy transition

**Pavel Boev, Ward Warmerdam**

**9 June 2026**

## About this report

This report was commissioned by the Environmental Investigation Agency (EIA) to assess how effectively the Green Climate Fund (GCF) mobilises private capital for the energy transition and to learn from it. It was prepared by Profundo and examines the role and performance of the GCF's Private Sector Facility (PSF) at a time when public climate finance is under pressure and expectations for private capital mobilisation are increasing. The report reviews the PSF's strategy, instruments, and investment modalities, including grants, concessional debt, equity, and guarantees. It also analyses 84 approved GCF funding proposals to assess the volume and scale of private finance mobilisation, identifies key external and internal barriers limiting stronger results, and includes a case study to illustrate how these dynamics work in practice. The report concludes with findings and recommendations for the GCF and other international climate finance institutions seeking to strengthen private finance mobilisation for the global energy transition.

## About Profundo

With profound research and advice, Profundo aims to make a practical contribution to a sustainable world and social justice. Quality comes first, aiming at the needs of our clients. Thematically we focus on commodity chains, the financial sector and corporate social responsibility. More information on Profundo can be found at www.profundo.nl.

## Authorship

This report was researched and written by Pavel Boev and Ward Warmerdam. Correct citation of this document: Boev, P. and W. Warmerdam (2026, June), *GCF Private Climate Finance Mobilisation: Understanding the approaches, instruments and outcomes for mobilising private finance for energy transition,* Amsterdam, The Netherlands: Profundo.

Front page cover photograph by Evgeni Tcherkasski – Unsplash.

## Acknowledgements

The authors would like to thank the GCF for their support with obtaining and interpreting the relevant data.

## Disclaimer

## Contents

## List of tables



## List of figures

## Summary

Public climate finance is under pressure, while expectations for private capital mobilisation continue to rise. The Green Climate Fund's Private Sector Facility (PSF) was created to use concessional public capital to reduce risks and bring private actors into climate finance in developing countries. This study assesses how far the PSF has done so for the energy transition, defined as decarbonisation of the electricity sector and industry, including renewable generation, energy access, storage, grids, green hydrogen and related infrastructure. The analysis covers 84 approved PSF projects and reviews GCF instruments, reported co-financing, verified private finance, barriers to mobilisation and selected case studies.

The findings are mixed. At headline level, the PSF appears to mobilise substantial co-financing. GCF reports USD 6.9 billion in private-sector finance and USD 31.3 billion in "unlocked" private co-financing, implying a leverage ratio of around 4.5:1. These figures need careful interpretation. GCF reporting often combines expected, associated and realised co-financing, and does not always distinguish clearly between public and private sources, or between expected and committed capital. Applying a narrower test — counting only private finance that can be verified from project documents and attributed to energy-transition activities — produces a more modest result: approximately USD 4.2 billion in verified private finance can be confidently linked to the energy transition.

Energy transition is present in much of the PSF portfolio, but often not as the sole focus. Of the 84 approved PSF projects, 59 included renewable energy generation or energy storage components, and 50 disclosed a specific share of funding dedicated to energy generation and access. Only roughly a quarter of the portfolio was fully dedicated to energy transition. However, this should not be read simply as a lack of interest. The evidence suggests that energy-transition activities are often embedded in broader multi-sector structures, and that GCF is becoming more selective within the energy-transition value chain. Conventional utility-scale renewables may already be bankable in some markets, while distributed generation, off-grid solar, storage and less mature geographies may still require concessional support. At the same time, it is critical that the GCF remains dedicated to advancing energy transition in a broad sense, which is a truly essential area to achieve the goals of the Paris Agreement.

Among projects with verified private finance and an identifiable energy-transition share, mobilisation ratios ranged from 0.16 to 7.22, with an average of 2.50. The strongest cases tended to use fund, facility or platform structures rather than one-off project finance models. These structures can aggregate smaller opportunities, spread risk and give investors access to a pipeline rather than a single asset. The Green Growth Equity Fund reached the highest mobilisation ratio in the sample, at 7.22, combining GCF equity and grant support with a structure that helped bring private investors into green infrastructure in India.

The analysis also finds that instruments work differently depending on the barrier being addressed. Equity and junior capital can be useful where private investors need part of the potential loss to be absorbed by public finance. Guarantees were used less often, but the reviewed examples suggest they may be useful for solar and decentralised renewable-energy projects where the technology is understood but investors remain concerned about payment, political, currency-transfer, contract or country risk. Grants remain essential, mainly as enabling instruments: they support feasibility work, technical assistance, regulatory reform, institutional capacity and project preparation.

Barriers to stronger mobilisation are both external and internal. External barriers include weak enabling environments, shallow domestic financial markets, limited project pipelines, perceived country risk, unfamiliarity with new markets and immature business models. Internal constraints include lengthy accreditation and approval processes, reliance on a limited pool of accredited entities, and limited transparency in reporting realised private finance. Addressing both sets of

barriers gives the GCF a clear opportunity to strengthen the conditions for private sector mobilisation and make its strategy more effective.

The report recommends that GCF use Readiness support to reduce perceived risks in new markets, strengthen transparency on private finance mobilisation, expand strategic use of risk-bearing instruments, preserve grants for upstream enabling work, and make greater use of platforms that aggregate pipelines and build investor confidence. The broader recommendations the report provides are also relevant to other development and climate finance institutions and should be used to strengthen their efforts to unlock private capital for a just transition.

## Abbreviations

| | |
|---|---|
| **AE** | Accredited Entity |
| **AfDB** | African Development Bank |
| **AFD** | Agence Française de Développement |
| **APR** | Annual Performance Report |
| **ASEAN** | Association of Southeast Asian Nations |
| **B.34** | Thirty-fourth meeting of the Board |
| **BII** | British International Investment |
| **CO2e / $CO_2e$** | Carbon dioxide equivalent |
| **Danida** | Danish International Development Agency |
| **DFI / DFIs** | Development finance institution(s) |
| **EIA** | Environmental Investigation Agency |
| **EIB** | European Investment Bank |
| **EU** | European Union |
| **EV** | Electric vehicle |
| **FCDO** | Foreign, Commonwealth & Development Office |
| **FMO** | Nederlandse Financierings-Maatschappij voor Ontwikkelingslanden / Dutch Entrepreneurial Development Bank |
| **FP** | Funding Proposal |
| **GCF** | Green Climate Fund |
| **GCPF** | Global Climate Partnership Fund |
| **GGEF** | Green Growth Equity Fund |
| **GW** | Gigawatt |
| **HBS** | Heinrich-Böll-Stiftung |
| **ICRA** | Investment Information and Credit Rating Agency |
| **IEU** | Independent Evaluation Unit |
| **MDBs** | Multilateral development banks |
| **MSMEs** | Micro, small and medium-sized enterprises |
| **MWp** | Megawatt-peak |
| **NAPs** | National Adaptation Plans |
| **NDCs** | Nationally Determined Contributions |
| **NIIF** | National Investment and Infrastructure Fund |
| **NTPC** | National Thermal Power Corporation |
| **ONGC** | Oil and Natural Gas Corporation |
| **ONGPL** | ONGC NTPC Green Private Limited |
| **OPEX** | Operating expenditure |
| **PSAA** | Project Specific Assessment Approach |
| **PSF** | Private Sector Facility |
| **SAP** | Simplified Approval Process |

| | |
|---|---|
| **Sida** | Swedish International Development Cooperation Agency |
| **TBD** | To be determined |
| **USD** | United States dollar |

## Introduction

Over the ten years since 2015, when the Green Climate Fund (GCF) was initially established, the fund has developed a portfolio of USD 19.3 billion, providing capital for more than 300 projects in 130 countries, and claims to have positively impacted the lives of 1.6 billion people globally.[1] To scale up its activities and help de-risk capital flows, the GCF established the Private Sector Facility (PSF), which aimed to fund and mobilise private sector actors, including corporate investors and financial institutions. The PSF supports private investment through a range of tools, including low-interest, long-term project loans, lines of credit to banks and other financial institutions, equity investments, and risk-mitigation tools such as guarantees, first-loss protection, and grant-based capacity-building programmes.[2]

This study occurs at a critical moment. International public finance is tightening, while expectations for private capital mobilisation continue to rise. The GCF, which was created with a mandate to take risks, innovate and mobilise private investment, faces pressure to demonstrate effectiveness and improve its catalytic impact.

This report is commissioned by the Environmental Investigation Agency (EIA) and aims to analyse how successful the GCF is in mobilising private capital for the energy transition.[i] The first chapter of the report provides an overview of the GCF's PSF, with a focus on its Private Sector Strategy. The second chapter examines in greater detail the instruments and modalities used by the GCF to mobilise private finance and make direct investments. It looks specifically at tools such as grants, concessional debt, equity, and guarantees. The third chapter presents an overview of the volume and scale of private capital mobilisation, based on an analysis of 84 approved funding proposals published by the GCF. The fourth chapter discusses barriers that prevent greater private capital mobilisation, including weak enabling environments, immature business models, mismatches between financing structures and project scale, underdeveloped domestic capital markets, and internal GCF processes, which can also act as constraints. Chapters five and six cover two case studies (Green Growth Equity Fund and GCF-EBRD Kazakhstan Renewables Framework, respectively) assessing which instruments and modalities work well and which do not in specific energy transition projects. Chapter seven presents conclusions and recommendations, with an initial section outlining the key takeaways from the research, followed by recommendations for the GCF and other international climate finance institutions on how they can improve their tools and strategies to better leverage private finance for the global energy transition.

A summary of the findings of this report can be found on the first pages of this report.

[i] For the purposes of this research, energy transition is understood as decarbonisation of the energy sector (electricity/heating) and of industry, including grid updates and other integration investments, storage and green hydrogen, and energy generation from renewable sources such as wind, solar, geothermal, and hydro.

# 1

# Private Sector Facility: an overview

**This section will provide a brief overview of the GCF's structure, strategy, and goals. It will summarise the rationale behind developing the PSF, the key milestones, focus areas, and targets it aims to achieve.**

## 1.1 PSF at a glance

To expand its operations and address growing climate finance needs, the GCF established the PSF to finance and mobilise private-sector actors, including institutional investors. The PSF uses GCF capital to encourage private-sector co-financing (commercial banks, pension funds, and investors) for mitigation and adaptation projects in developing countries. Its mandate is to engage both domestic and international private sector actors, primarily through collaboration with Accredited Entities.[3] Through these partnerships, the PSF supports the financing of projects that deliver measurable climate outcomes. A core objective of the PSF is to reduce investment risks to facilitate greater private capital participation in low-carbon and climate-resilient activities. GCF applies a relatively high-risk tolerance in this context, aiming to encourage investment in sectors and markets where private finance is otherwise limited or non-existent. PSF-supported investments are aligned with country priorities and focus on energy generation and access; transport; livelihoods of people and communities; health; food and water security; buildings; cities; industries and appliances; forests and land use; ecosystems and ecosystem services; and infrastructure and the built environment.[4]

Effectively, the PSF is the GCF's main channel for bringing private finance into climate action. It was created because many climate projects in developing countries face barriers that public funding alone cannot overcome. These barriers may include high upfront costs, limited access to long-term finance, not yet commercially viable technologies, weak local capital markets, or risks that commercial investors are not yet willing to take.[5]

The PSF helps reduce these barriers by using GCF funding in ways that make climate investments more attractive and viable for private actors. It can provide loans, equity, guarantees, and grants, depending on what a project or market needs. These instruments are used to share risk, improve project bankability, and encourage other investors to participate.[6]

Its work covers several types of private-sector engagement. This includes partnering with banks and other financial institutions, financing individual projects, investing through climate funds, supporting market-based mechanisms, and backing new climate technologies. In each case, the aim is not simply to fund one activity, but to help create conditions in which private capital can flow into low-emission and climate-resilient development more consistently.[7]

Recently, the GCF has changed how it organises private-sector work internally. In 2026, staff from the PSF were integrated into GCF's Regional Departments and the Department of Strategic Investment Partnerships and Co-Investments. This reform is intended to connect private-sector engagement more directly with country priorities and regional market conditions. As a result, the PSF is now positioned less as a stand-alone financing window and more as part of GCF's broader country-focused investment model. The objective is to identify and structure investments that

align with national climate plans, reflect local market realities, and have the potential to attract private finance at scale.[8]

## 1.2 PSF Strategy

The GCF Private Sector Strategy[9] presents the Fund as a higher-risk, market-creating financier, aiming to mobilise private climate finance, by reducing investment risk, strengthening domestic financial systems, and supporting innovation in developing countries. The strategy is built around four main elements:

- **Promote a conducive investment environment for combined climate and economic growth activities**

  GCF aims to promote a conducive investment environment for climate-related economic growth. This includes using the Readiness and Preparatory Support Programme to help countries develop long-term climate investment roadmaps, green investment plans, and policy frameworks that can attract private investment. GCF identifies areas such as carbon pricing, climate risk disclosure, green finance roadmaps, and private-sector investment strategies as relevant forms of readiness support.

- **Accelerating climate innovation through early-stage finance and accreditation reforms, such as the Project Specific Assessment Approach (PSAA)**

  The strategy seeks to accelerate innovation in business models, financial instruments, and climate technologies. GCF notes that innovation is needed not only in technologies but also in locally adapted business models and financing structures. The strategy links this priority to early-stage finance, climate technology incubators and accelerators, and the PSAA, which is intended to create a more viable access pathway for non-accredited private-sector actors with strategically relevant proposals.

- **De-risk market-creating investments to crowd in private climate finance**

  GCF aims to de-risk market-creating investments in order to crowd in private climate finance. This is the central blended-finance function of the PSF: using GCF's concessional capital to absorb or reduce risks that commercial investors are unwilling or unable to take on independently. These risks may include early-stage technology risk, limited local track records, currency and liquidity constraints, high upfront costs, or uncertainty around revenues in emerging climate sectors. By taking a higher-risk position, GCF seeks to make projects and financial structures more investable, demonstrate their commercial viability, and help establish a performance record that can attract future private capital without the same level of concessional support. GCF identifies resilient infrastructure, thematic climate bonds, lines of credit, revolving funds, and insurance vehicles as examples of instruments and structures that can support this market-creation approach.

- **Strengthen domestic and regional financial institutions to scale up private climate finance**

  The strategy seeks to strengthen domestic and regional financial institutions as channels for scaling private climate finance in developing countries. GCF's aim is not only to provide capital, but also to help build the capacity of domestic financial systems to identify, structure, and finance climate investments over time. This includes supporting local financial institutions to develop climate-related lending products, expand access to long-term and affordable finance, and strengthen their ability to assess climate risks and opportunities. The strategy also points to the development of domestic capital markets by using instruments such as green bonds, blue bonds, transition bonds, green asset-backed securities, and climate-resilient bonds. In this way, GCF seeks to move beyond individual project financing and help create local financial ecosystems capable of mobilising private capital for low-emission and climate-resilient development at greater scale.[10]

Under the “Ways Forward,” GCF’s PSF goal is to contribute to translating Nationally Determined Contributions (NDCs) and National Adaptation Plans (NAPs) into investment plans, expanding the use of equity, guarantees, and insurance, exploring approaches to mobilise private capital without increasing debt, and strengthening outreach to the private sector.

However, the strategy remains largely high-level. In several areas, most notably the commitment to develop innovative financial instruments that do not increase debt burdens, GCF does not specify which instruments it intends to use, at what scale, or within what timeframe. Overall, the strategy signals clear ambition and direction but leaves key operational details to be defined through future policies and implementation decisions.[11]

GCF also plans to support the strategy with a more deliberate outreach effort. As the PSF introduces new financing approaches and programming models, GCF recognises that it will need stronger relationships not only with private investors, but also with national partners who shape investment priorities, such as National Designated Authorities (NDAs) and ministries of finance or investment. The outreach plan is intended to make the private sector strategy more practical and better understood. It focuses on five areas. First, GCF aims to work with developing-country partners so they can see how private-sector engagement can support national climate and investment priorities. Second, it seeks to involve more domestic private-sector actors, including commercial banks, local financial institutions, capital-market participants, and enterprises, in GCF-financed activities and in possible PSAA opportunities. Third, GCF wants to broaden its network of private-sector partners, both domestic and international, in order to mobilise more climate finance for developing countries. Fourth, it plans to take part in regional and global initiatives where it can share lessons, learn from others, and strengthen its visibility as a climate finance partner. Finally, GCF intends to use its convening role to bring together public institutions, investors, financial institutions, and businesses around new partnership models for climate investment.[12]

## 1.3 PSF and the Readiness Programme

The Readiness Programme is closely linked to the PSF because it works on the conditions that private investors look for before they commit capital. Under the 2024–2027 Readiness Strategy, GCF has moved to a four-year programming cycle, with the aim of reducing transaction costs, improving funding predictability and supporting more coherent country-level planning. A central part of the new approach is pipeline development: 60% of Readiness funding is now intended to support country-originated investment pipelines that can unlock GCF finance.[13]

This matters for the Private Sector Strategy because many barriers to private mobilisation arise before a transaction reaches the financing stage. Readiness can support climate investment plans, policy and regulatory reform, stronger national coordination, improved project preparation, and capacity-building for NDAs, direct access entities and other domestic institutions. GCF also explicitly links Readiness to enabling environments for large-scale climate investments, including private-sector-led initiatives.[14]

In practical terms, Readiness can help lower investors’ perceived risk in unfamiliar markets. It can make national priorities clearer, improve regulatory confidence, generate better-prepared project pipelines, and strengthen the local institutions that investors and accredited entities need to work with. Its relevance to the PSF is therefore not marginal or administrative: it is one of the ways GCF can turn country ownership into investable programmes and make private-sector mobilisation more credible.

# 2

# Instruments and modalities

**This chapter reviews the main instruments and approaches used by the GCF under its PSF. In most cases, the GCF combines its own public funding with private finance to help make climate projects commercially viable. This support is intended to lower risks and/or improve financial returns, reducing the barriers for private investors to participate. To do this, the GCF works with a mix of tools, including grants, loans with different risk profiles, equity investments, and guarantees.**

The GCF lists the key instruments it uses;[15] however, it does not provide their standard definitions. Therefore, for the purposes of this report, the World Bank's definitions[16] of the key financial instruments will be used.

## 2.1 Grants

A grant is "*either finance with no expectation of repayment, or performance grants that are paid if a project reaches specified milestones*".[17]

Grants are usually used at the very beginning of a project, when uncertainty is high and private investors are reluctant to step in. Overall, Development Finance Institutions (DFIs) use grants to support development-oriented activities that are unlikely to generate direct financial returns or cannot be financed through loans or commercial investment. Grants are commonly used for technical assistance, project preparation, capacity building, feasibility studies, institutional strengthening, data systems, stakeholder engagement, and policy or regulatory reform. They help create the enabling conditions for investment, improve project quality, reduce implementation barriers, and support public-benefit activities where repayment is not realistic or appropriate.

GCF grant funding often supports practical early-stage work, such as project design, feasibility assessments, setting technical standards, and establishing monitoring and reporting systems. This kind of support helps institutions build the capacity they need and lowers delivery and compliance risks. As a result, projects are better prepared and more credible, making them more attractive to private investors. In addition to ordinary grants, GCF also uses reimbursable grants, an instrument somewhere between a traditional grant and a loan. They provide public funding at a stage when projects may still be too risky or uncertain for commercial finance. Unlike a standard grant, however, the funding is not automatically permanent. Repayment is triggered only if agreed conditions are met: for example, the project reached a certain level of performance or financial returns. From the perspective of private investors, reimbursable grants reduce initial risks and costs without distorting the project's long-term economics, because GCF's support is repaid only if the project succeeds.

## 2.2 Concessional debt

Concessional finance is "*financing on terms and/or conditions that are more favourable than those available from the market*".[18]

Concessional debt is often used in the development finance context to finance projects that can generate repayment capacity but cannot afford fully commercial borrowing terms. Concessional debt is repayable finance provided on softer-than-market terms.

Concessional debt is a key mechanism used by GCF to support projects that have the potential to earn revenues but are not yet able to secure finance on fully commercial terms. Rather than replacing private lenders, the GCF offers loans on conditions that are easier than those available on the market, for example, through lower interest rates, longer maturities, or repayment grace periods. This type of financing helps projects get through their early years, when revenues are still uncertain and financial pressure is highest. In some cases, the GCF provides the loan alongside commercial banks as a senior lender. In others, it deliberately takes a subordinated ("junior") position. When the GCF is subordinated, it agrees to be repaid only after senior lenders have been paid, and to absorb losses first if the project does not perform as expected. This arrangement reduces the risk for commercial lenders and increases their likelihood of participation. By taking on this additional risk, GCF helps unlock private finance.

## 2.3 Equity

Equity, in the context of public investors or development finance, is "*an ownership stake in a company or participation in a fund, with return expectations below what market investors would expect*".[19]

DFI equity is typically used where ownership capital is needed rather than additional debt: for example, to capitalise a financial institution, expand a renewable-energy developer, support an infrastructure platform, or invest in a fund that backs Small and Medium-sized Enterprises (SMEs) or climate businesses.

Equity is used by the GCF when projects are too uncertain or risky to rely mainly on loans, particularly during construction or the early years of operation. Unlike loans, equity does not require fixed repayments. This gives projects more flexibility to deal with lower revenue, delays, or higher costs than initially anticipated. Because of this, equity is often better suited to newer technologies, first-of-a-kind investments, or projects in the emerging markets. In some cases, the GCF invests directly as a shareholder; in others, it provides equity through investment funds. A common approach is for the GCF to take a "first-loss" or junior equity position. This means that if a project or fund underperforms, the GCF bears losses before other, more senior investors are affected. By taking on this higher level of risk, the GCF improves the overall risk–return profile for private investors. From the perspective of institutional investors and commercial banks, this kind of structure provides reassurance that part of the downside risk is being absorbed by public capital. As a result, they are more willing to invest, or to do so on better terms. For example, GCF's Infrastructure Climate Resilient Fund uses USD 240 million in junior first-loss equity to catalyse private investors and pension funds.[20]

Under the PSF, equity investments and risk-mitigating features such as first-loss protection are explicitly used for this purpose, and GCF reporting shows that these structures have played an important role in mobilising private finance across its portfolio. For example, under project FP152 *Global Sub-national Climate Fund*, GCF committed USD 150 million in equity, and expects to leverage USD 600 million in senior debt from private institutions.[21] At the same time, as noted in Chapter 3, GCF's disclosures on mobilising climate finance are often not transparent, with reported mobilised amounts often referring to expected financing during a project's (often 20+ years) lifespan, rather than funds already committed.

## 2.4 Guarantees

In the public and development finance context, guarantees or risk-sharing facilities are instruments "*which transfer all or part of the financial risk of a loan or group of loans [or other transactions] to the guarantor, with fees charged at below-market rates; this could be, for example, in the form of a first-loss protection, where the donor guarantees a portfolio of investments of a financial; intermediary and pays out before the senior guarantor in case there is a payment default*".[22]

Guarantees are used when projects are largely viable commercially, but private lenders remain hesitant because of specific risks. Rather than financing the project itself, DFIs agree to cover part of the potential losses if clearly defined risks materialise. This reduces the downside risk faced by commercial lenders and makes financing more attractive for them. When a guarantee is in place, banks are often prepared to lend for longer periods, rely less on collateral, and offer pricing closer to normal market terms.

The GCF can structure this support in different ways. Credit guarantees protect lenders against the risk of non-repayment, while partial risk guarantees focus on particular non-commercial risks, such as policy changes or weaknesses in public off-takers. Both forms are recognised in GCF policy. In practice, these guarantees are frequently used through risk-sharing arrangements with local banks. A GCF-backed guarantee can support a portfolio of loans (for example, for energy efficiency investments), allowing banks to expand lending into new sectors while the GCF takes on part of the risk.

Despite their benefits for attracting private capital, guarantees proved the least common instrument. Only 8 of the 84 projects approved under the PSF (as of January 2026) included guarantees. This could potentially be due to the relatively high risk for the guarantor (GCF). If it is triggered, GCF may have to pay a large amount quickly. That risk grows when the guarantee covers a large share of the finance, lasts a long time, or could be triggered across many borrowers. Overall, guarantees may be used less often because they create contingent liabilities and require careful risk management. GCF's risk appetite statement[23] says the Fund is willing to accept considerable risks in projects where justified by impact, but it also stresses proactive risk identification, mitigation, monitoring, and institutional risk management.

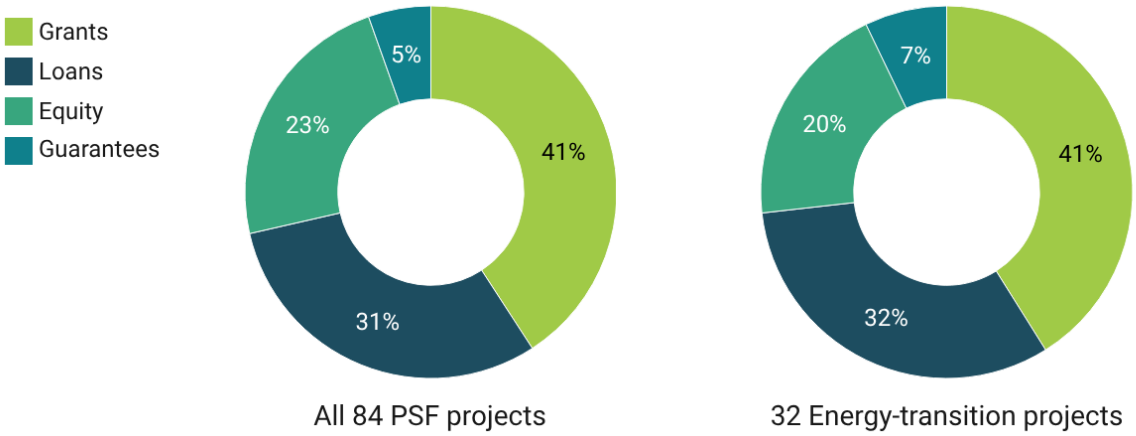
## 2.5 Instrument distribution

To analyse the financial instruments used in energy transition-related projects, the full project dataset was first filtered to include only projects under the PSF. This showed that 84 PSF projects had been approved by the end of 2025. The dataset was then further narrowed to projects with at least some identifiable energy transition component. For these, the approved funding proposals and related documentation were reviewed in order to verify the actual share attributable to energy transition. Based on this document review, 32 projects were identified for which the energy transition share could be verified with sufficient confidence.

Looking across all 84 PSF projects, the overall mix of GCF financing tools is broadly similar to the mix seen in the 32 energy-transition projects, although the 32-project subset places somewhat more weight on loans and guarantees than on grants. In the full PSF portfolio, total GCF support is about USD 7.44 billion, made up of 51.5% loans or USD 3.84 billion, 33.8% equity or USD 2.51 billion, 11.1% grants or USD 828.6 million, and 3.6% guarantees or USD 265.5 million. In the 32 energy-transition projects, total GCF support is about USD 2.66 billion, comprising 45.4% loans or USD 1.21 billion, 31.3% equity or USD 831.3 million, 18.3% grants or USD 485.8 million, and 5.0% guarantees or USD 134.0 million. In other words, loans remain the largest source of GCF financing in the energy-transition group, followed by equity, then grants, while guarantees account for only a small share of total financing. Compared with the full PSF portfolio, the energy-transition subset has a lower share of loans and equity, but a higher share of grants and guarantees.

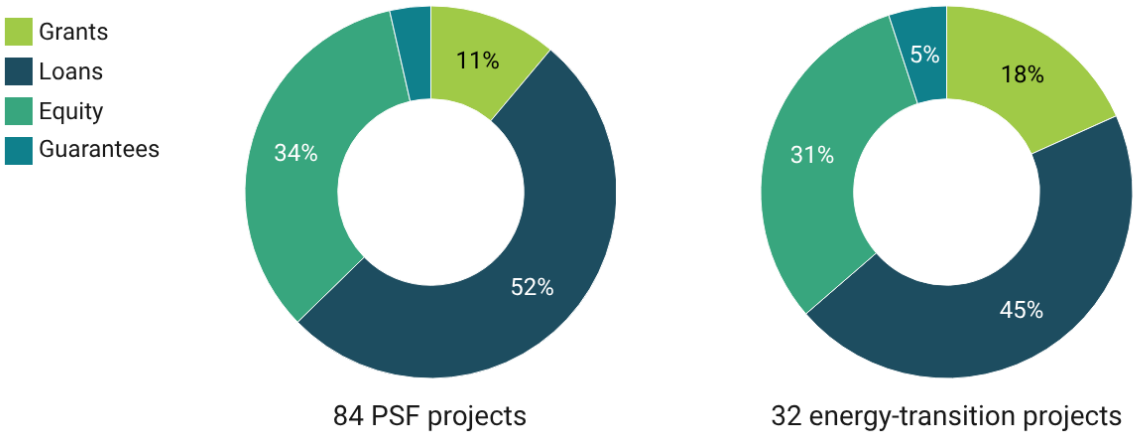
Looking simply at the number of projects using each GCF financing tool, the picture for the full PSF portfolio is very close to that of the 32 energy-transition projects. Across all 84 PSF projects, 60 use grants (41%), 45 use loans (31%), 34 use equity (23%), and 8 use guarantees (5%). Among the 32 energy-transition projects, 21 use grants (40%), 17 use loans (32%), 11 use equity (21%), and 4 use guarantees (8%). Many projects use more than one instrument, for example, a grant alongside a loan, equity investment, or guarantee. For that reason, the instrument counts overlap, and adding them together produces totals higher than the number of projects in each group.

**Figure 1 Instrument distribution (by number) within the PSF portfolio**




Green Climate Fund (n.d.), "Project portfolio: List of approved projects", online: https://www.greenclimate.fund/projects, viewed in March 2026.

**Figure 2 Instrument distribution (by volume) within the PSF portfolio**




Green Climate Fund (n.d.), "Project portfolio: List of approved projects", online: https://www.greenclimate.fund/projects, viewed in March 2026.

Among the 32 energy-transition projects, 23 use grants, 18 use loans, 11 use equity, and 4 use guarantees. This corresponds to roughly 41% grants, 32% loans, 20% equity, and 7% guarantees when counted across all instrument uses. The pattern is broadly consistent with the full set of 84 PSF projects: grants remain the most common instrument, followed by loans and then equity, while guarantees are used only rarely. The main difference is modest: the energy-transition subset shows a slightly higher relative use of guarantees.

It can be concluded that the projects linked to energy transition and backed by verified private co-financing are being financed with much the same set of tools as the wider PSF portfolio, rather than through a clearly distinct instrument mix.

# 3

# Private capital mobilisation volume and scale

**This chapter examines how GCF defines and reports on private capital, how much of that capital it has mobilised, the mobilisation ratio it has achieved, and which private entities have contributed to GCF-supported projects. It critically evaluates GCF reporting and cross-checks it with GCF's own methodology and external evaluations.**

## 3.1 Existing evaluations of the PSF private finance mobilisation

GCF defines private finance as funding provided by entities that are more than 50% privately owned or controlled. Public finance, by contrast, comes from governments or publicly owned institutions. Under this definition, commercial banks and private companies qualify as private, while multilateral development banks are generally considered public, even when they support private projects.[24]

According to the Independent Evaluation Unit, GCF has demonstrated an ability to mobilise private capital at scale, but only across a relatively small and concentrated segment of its private sector portfolio. The figures are based on portfolio data as of the thirty-fourth meeting of the Board (B.34), October 2022.[25] Private sector engagement remains limited in institutional breadth, with just 27 accredited private sector entities, most of which are financial institutions. Commercial and private banks account for the majority of private sector Accredited entities (AEs), while only a small number of investment funds, asset managers, private equity funds, and non-financial actors such as infrastructure or project developers are represented. Potentially, this could also be a strategic decision. GCF lacks sufficient local expertise, whereas local banks do. Local banks, therefore, may appear better suited to provide and disburse programmatic interventions. As a result, private capital mobilisation is largely intermediated through banks rather than driven directly by corporates or project sponsors. Within this narrow base, mobilisation volumes are strong. Collectively, across the 18 approved projects implemented by nine private-sector accredited entities, total co-financing amounts to approximately USD 4.7 billion, compared with about USD 1.0 billion in GCF financing. This means a mobilisation ratio of roughly 4.7 to 1.[26] This indicates that, where capable intermediaries exist, GCF concessional finance can crowd in significant volumes of private capital.

At the same time, the concentration of mobilisation outcomes among a small group of repeat partners suggests that overall scale is constrained by limited participation and replication. Expanding private capital mobilisation will therefore depend less on increasing leverage per transaction and more on broadening the pool of private actors able to originate and implement GCF-supported investments.

During an interview on private sector programming, [RM1.1]GCF suggested that historically its reliance has been on a limited number of large or familiar accredited entities, which is partly a consequence of its delivery model and fiduciary requirements. GCF works through accredited entities, which are "entrusted with ensuring how things actually play out" and with delivery on the ground. Where an entity lacks a strong local presence or the ability to drive implementation, projects may fail to deliver. This helps explain why GCF may gravitate toward larger or more

established partners with the capacity to manage complex projects, meet due diligence requirements, and operate in challenging country contexts. At the same time, the interviewee explicitly recognised the critique that GCF has worked through a limited set of accredited institutions as valid, noting that this can lead GCF to pursue only those climate investment activities that are mutually aligned.[27]

The interview indicated that GCF was aware of this constraint and had sought to broaden its partner base. The interviewee described several approaches: encouraging existing accredited entities to pursue more additional ideas, matching non-accredited actors with accredited entities, using the PSAA route to work with non-partners, and additionally revising the accreditation framework to make accreditation more predictable, timebound and fit for purpose.[28]

It should be also noted that the way GCF publicly presents the PSF progress, including the private mobilisation ratio, is not always transparent and subject to interpretation. As of October 2025, GCF reports USD 6.9 billion in GCF private sector finance and states that this has "unlocked" USD 31.3 billion in private co-financing, implying a 4.5:1 leverage ratio.[29] GCF also reports 27 private sector accredited entities (as of October 2022), broadly consistent with earlier figures. These headline numbers are often used to illustrate GCF's role in mobilising private capital.

However, the meaning of "unlocked" is critical. GCF's own policies clearly distinguish between expected co-financing (estimated at the time a project is approved) and realised co-financing (money provided during implementation). The USD 31.3 billion figure represents portfolio-level expected or associated private co-financing, not money already contractually committed. While GCF does not publicly present this figure as a verified total of realised private investment, it also does not disclose the amount of private capital actually mobilised. The Heinrich-Böll-Stiftung (HBS) has highlighted this gap. Reviewing projects approved up to mid-2021, HBS found that of USD 9.47 billion in expected co-financing, only USD 1.65 billion could be clearly identified as private, with the remainder listed as public or to be determined (TBD). HBS concludes that "*the GCF must close the gap between FP [Funding Proposal] claims and binding commitments*," warning that reported private mobilisation can overstate what private actors have firmly committed.[30] HBS also found that private sector activities often appear to overstate claimed co-financing by including existing shareholdings and private equity, without clear evidence that these investments are additional or directly attributable to the funded activity.[31] More granular, regular, and transparent reporting is required to bridge this gap.

## 3.2 Portfolio screening results

This analysis examines private finance mobilisation within the GCF's PSF portfolio, with a specific focus on the share attributable to the energy transition. The dataset covers 84 PSF projects (the entire PSF portfolio as of January 2026) and applies a multi-step filtering and attribution methodology to derive a reliable and verifiable estimate of mobilised private finance.

### 3.2.1 Methodology

First, for each project, information was compiled on GCF financing by instrument (grants, loans, equity, guarantees), total co-financing, and total project financing, as reported in official GCF documentation. However, given that GCF headline co-financing figures typically aggregate public and private sources and often include expected or indicative amounts, these figures were not used directly to measure private finance mobilisation. Instead, the analysis identifies verified private co-financing at the project level. Private finance is counted only when a specific amount attributable to private actors can be confirmed through primary documentation, including approved funding proposals, annual performance reports, interim evaluations, and related project documents. Where documents refer only to expected, targeted, or unspecified private investment, such amounts are excluded.

Second, each project is assessed for the presence of an energy transition component. Projects are classified as fully, partially, or not related to energy transition. For projects with mixed components, an attempt has been made to determine the share of the project attributable to energy transition, based on information in the funding proposal or other official sources. Where such a share cannot be reliably established, the project is excluded from the final quantitative analysis.

Third, for projects meeting both criteria (availability of verified private finance data and a defensible energy-transition share) the amount of private finance attributable to energy transition has been calculated by multiplying verified private co-financing by the estimated energy-transition share.

### 3.2.2 Practical example of attributing and verifying committed private financing

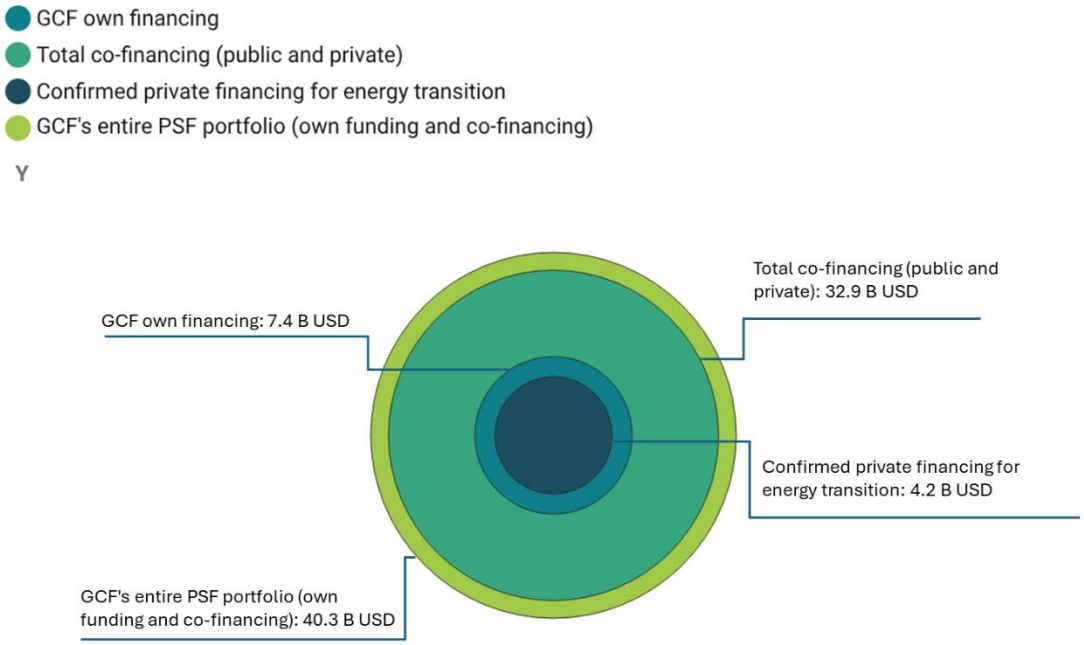
For the PSF project FP221 – Rwanda Green Investment Facility, GCF reports the total co-financing of USD 99,162,898 spread across several loans, grants, and guarantees, on top of GCF's own USD 30,000,000 loan and USD 12,793,000 in grants. However, the major co-financiers are Foreign, Commonwealth & Development Office (FCDO), Danish International Development Agency (Danida), European Investment Bank (EIB), Agence Française de Développement (AFD), Swedish International Development Cooperation Agency (Sida), African Development Bank (AfDB) – all public development institutions – and the Global Climate Partnership Fund (GCPF), managed by responsAbility. For the purposes of this analysis, Profundo has classified GCPF (USD 15,000,000) as private co-financing. However, GCPF is itself a blended fund structure (effectively a public–private partnership), and its underlying capital base may include public or DFI investors. Rwanda Green Investment Facility is only partially dedicated to the energy transition, with a 25% share channelled to renewable energy generation and access. Effectively, this means that a verifiable amount of private finance, reliably attributable to the energy transition, amounts to USD 3,750,000.

### 3.2.3 Portfolio-level mobilisation

A detailed review of the GCF's PSF portfolio shows that only a limited share of reported co-financing can be verified as private finance, and an even smaller share can be credibly linked to energy transition. Of 84 projects, only a subset of 32 provides sufficient information to identify both confirmed private investment and the proportion of activities dedicated to the energy transition. Among those projects where such attribution is possible, the share of activities dedicated to energy transition varies significantly, ranging from very small shares (around 5–10%) to fully dedicated projects (100%), with a large number of projects falling into the lower and mid-range (often below 50%), reflecting the prevalence of multi-sector or blended investment structures.

The private co-financing mobilisation ratio for projects with an energy transition component ranges from 0.16 to 7.22, with an average of 2.50. However, it should be understood that these figures are calculated at the project level and do not represent the private co-financing mobilisation ratio for energy transition specifically, as such a ratio would not be very meaningful. This is because an energy-transition-specific ratio would largely depend on the share of each project attributed to energy transition, rather than on GCF's effectiveness in mobilising private finance. For example, where 20% of a project is dedicated to energy transition, approximately 20% of the mobilised private co-financing would normally be attributed to that component. Therefore, while the mobilisation ratio is meaningful at the project level, the more relevant indicator for energy transition is the actual amount of private co-financing mobilised for energy transition activities.

**Figure 3 GCF private finance mobilisation for energy transition**




Source: Profundo (2026, March), own calculations based on GCF reporting

Based on project-level documentation, the amount of verified private finance that can be confidently attributed to the energy transition is approximately USD 4.2 billion. This figure is significantly lower than headline GCF co-financing totals, which often combine public and private sources and include expected or uncommitted investments. The results highlight a structural issue: current reporting practices do not allow for consistent, transparent tracking of private finance mobilisation for energy transition, limiting the ability to assess the true impact of public climate finance in crowding in private capital.

Overall, grants were the most common element in projects that achieved higher rates of private sector finance mobilisation. 22 of the 32 projects in this universe included grant elements. Loans and equity were also quite frequent, with loans appearing slightly more often: 15 of the 27 projects included a GCF loan element, while 10 received GCF equity finance.

It should also be noted that the Green Growth Equity Fund, which had the highest climate finance mobilisation ratio, was among the projects supported through both equity and grant elements. This project is analysed in more detail in Chapter 5.

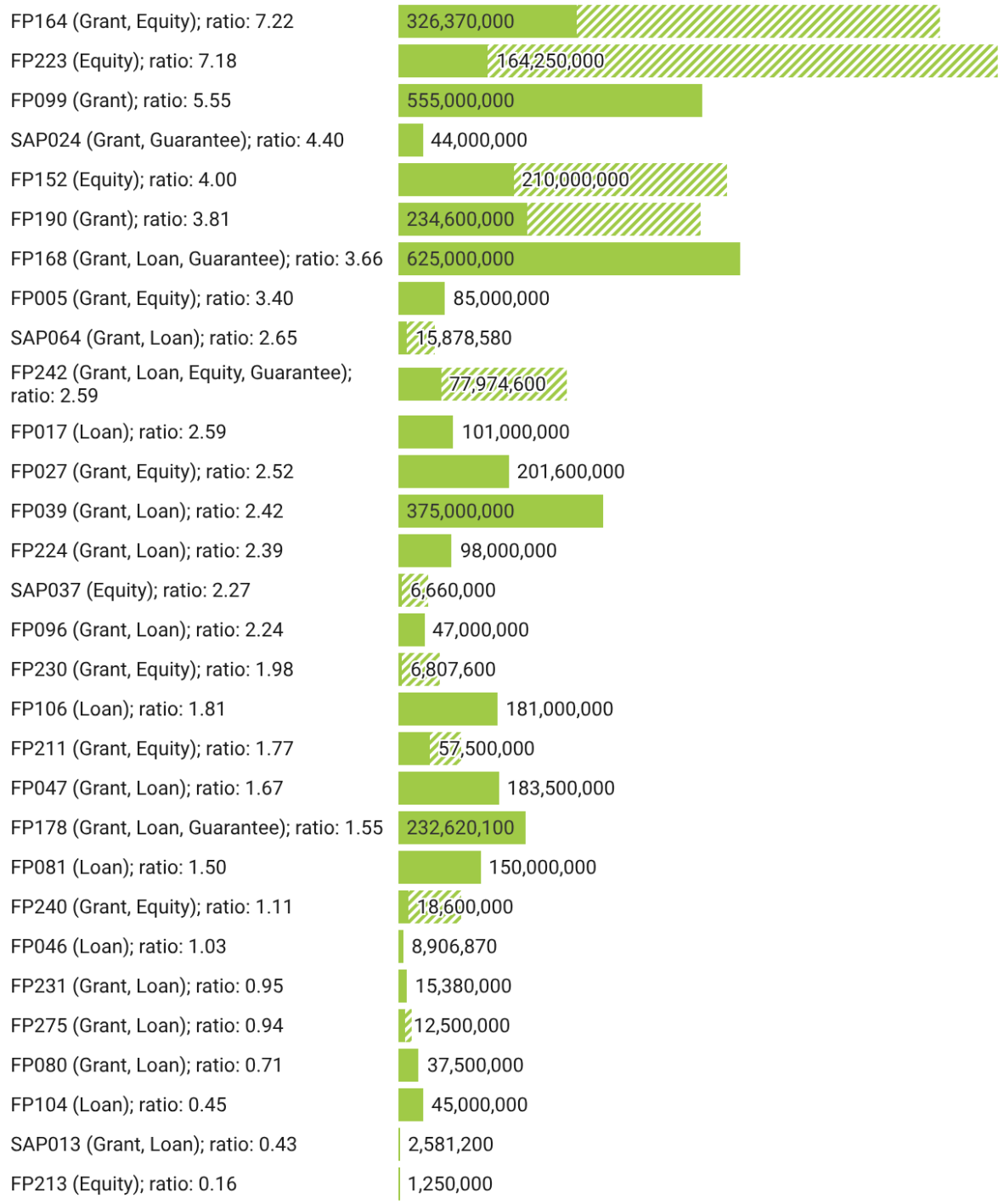
Turning to guarantees, these were used in only four of the projects for which private finance for the energy transition has been verified. These projects show private finance mobilisation ratios ranging from 1.55 to 4.40. The highest ratio is for the Pakistan Distributed Solar Project at 4.40, followed by Leveraging Energy Access Finance, or LEAF, at 3.66, Caribbean Net-Zero and Resilient Private Sector at 2.59, and the Desert to Power G5 Sahel Facility at 1.55. Three of these projects are fully dedicated to the energy transition: the Pakistan Distributed Solar Project is entirely focused on distributed solar energy, Desert to Power G5 Sahel is fully dedicated to energy access and renewable energy generation, and LEAF is also 100% focused on energy generation and access. The Caribbean Net-Zero and Resilient Private Sector project, by contrast, has a lower energy-transition share of 25.3%, meaning only part of its verified private finance is attributed to the energy transition. The rest of the project is dedicated to other mitigation and adaptation areas. On the mitigation side, these include low-emission transport; buildings, cities, industries and appliances; and forestry and land use. On the adaptation side, they include support for vulnerable people and communities, infrastructure and the built environment, and ecosystems and ecosystem services.

All four guarantee-backed projects include solar-related activities, although their degree of focus differs. The Pakistan Distributed Solar Project and Desert to Power G5 Sahel Facility are explicitly and centrally solar-focused. LEAF includes solar through decentralised renewable energy solutions such as solar home systems and commercial and industrial solar. The Caribbean Net-Zero and Resilient Private Sector project also includes solar PV, but only as one element within a broader programme covering renewable energy, energy efficiency, transport, infrastructure, land use, and adaptation.

Guarantees appear well-suited to solar projects in emerging and developing markets because they directly target risks that often block private investment: offtake risk, political risk, currency-transfer risk, breach-of-contract risk, and perceived country risk. The Organisation for Economic Co-operation and Development (OECD) describes guarantees and related risk-mitigation instruments as tools specifically intended to mobilise private finance for clean energy, including renewable power, in emerging markets and developing economies.[32]

The World Bank's recent institutional reforms are a strong signal that major DFIs see guarantees as central to mobilising private capital for clean energy. The World Bank Group announced a goal to triple annual guarantees to $20 billion by 2030, explicitly to boost private renewable-energy investment in developing countries. Mark Carney, who served as the UN Special Envoy for Climate Action and Finance until January 2025, also noted that political risk is often a deal-breaker for energy infrastructure investment and that clean energy is expected to take a large share of the guarantees.[33]

**Figure 4 Instruments used, private mobilisation ratio, total private co-financing and co-financing for energy transition for the 32 projects with verified ET share and private co-financing**




Source: Profundo (2026, April), own calculations based on GCF reporting

**Table 1 PSF projects with an energy transition (ET) component: private mobilisation ratio, mobilised private co-financing (USD), share of energy transition, and instruments used**

| Project ID | Project Name | Private mobilisation ratio | Confirmed private co-financing | % of ET | Total verified private finance for energy transition | Financing elements used |
|---|---|---|---|---|---|---|
| FP164 | Green Growth Equity Fund | 7.22 | 989,000,000 | 33% | 326,370,000 | Grant, equity |
| FP223 | Project GAIA | 7.18 | 1,095,000,000 | 15% | 164,250,000 | Equity |
| FP099 | Climate Investor One | 5.55 | 555,000,000 | 100% | 555,000,000 | Grant |
| SAP024 | Pakistan Distributed Solar Project | 4.40 | 44,000,000 | 100% | 44,000,000 | Grant, guarantee |
| FP152 | Global Subnational Climate Fund – Equity | 4.00 | 600,000,000 | 35% | 210,000,000 | Equity |
| FP190 | Climate Investor Two | 3.81 | 552,000,000 | 43% | 234,600,000 | Grant |
| FP168 | Leveraging Energy Access Finance (LEAF) | 3.66 | 625,000,000 | 100% | 625,000,000 | Grant, loan, guarantee |
| FP005 | KawiSafi Ventures Fund | 3.40 | 85,000,000 | 100% | 85,000,000 | Grant, equity |
| SAP064 | BEACON India | 2.65 | 66,160,750 | 24% | 15,878,580 | Grant, loan |
| FP242 | Caribbean Net-Zero and Resilient Private Sector | 2.59 | 308,200,000 | 25% | 77,974,600 | Grant, loan, equity, guarantee |
| FP017 | Chile Tarapacá Solar Programme | 2.59 | 101,000,000 | 100% | 101,000,000 | Loan |
| FP027 | Universal Green Energy Access Programme | 2.52 | 201,600,000 | 100% | 201,600,000 | Grant, equity |
| FP039 | Egypt Renewable Energy Financing Framework | 2.42 | 375,000,000 | 100% | 375,000,000 | Grant, loan |
| FP224 | Renewstable Barbados | 2.39 | 98,000,000 | 100% | 98,000,000 | Grant, loan |
| SAP037 | Avaana Sustainability Fund | 2.27 | 55,500,000 | 12% | 6,660,000 | Equity |
| FP096 | DRC Green Mini-Grid Program | 2.24 | 47,000,000 | 100% | 47,000,000 | Grant, loan |
| FP230 | Kuali Fund–GCF | 1.98 | 75,640,000 | 9% | 6,807,600 | Grant, equity |
| FP106 | Embedded Generation Investment Programme | 1.81 | 181,000,000 | 100% | 181,000,000 | Loan |
| FP211 | Hardest-to-Reach | 1.77 | 115,000,000 | 50% | 57,500,000 | Grant, equity |
| FP047 | Kazakhstan Renewables Framework | 1.67 | 183,500,000 | 100% | 183,500,000 | Grant, loan |
| FP178 | Desert to Power G5 Sahel Facility | 1.55 | 232,620,100 | 100% | 232,620,100 | Grant, loan, guarantee |
| FP081 | India Solar Rooftop Line of Credit | 1.50 | 150,000,000 | 100% | 150,000,000 | Loan |
| FP240 | Collaborative R&DB Climate Technopreneurship | 1.11 | 116,250,000 | 16% | 18,600,000 | Grant, equity |
| FP046 | Mongolia Solar Renewable Energy Program | 1.03 | 8,906,870 | 100% | 8,906,870 | Loan |
| FP231 | Accelerating Solar Action Program Ghana | 0.95 | 15,380,000 | 100% | 15,380,000 | Grant, loan |

| Project ID | Project Name | Private mobilisation ratio | Confirmed private co-financing | % of ET | Total verified private finance for energy transition | Financing elements used |
|---|---|---|---|---|---|---|
| FP275 | Integrated Utility Services Caribbean | 0.94 | 25,000,000 | 50% | 12,500,000 | Grant, loan |
| FP080 | Zambia Renewable Energy Financing Framework | 0.71 | 37,500,000 | 100% | 37,500,000 | Grant, loan |
| FP104 | Nigeria Solar IPP Support Program | 0.45 | 45,000,000 | 100% | 45,000,000 | Loan |
| SAP013 | Solar Microgrids Haiti | 0.43 | 4,302,000 | 60% | 2,581,200 | Grant, loan |
| FP213 | The Blue Green Bank Barbados | 0.16 | 2,500,000 | 50% | 1,250,000 | Equity |
| FP285 | GEF Latam Climate Solutions Fund IV | 2.54 | 178,000,000 | 25% | 44,500,000 | Equity |
| FP288 | Jordan Aqaba–Amman Water Desalination Project | 4.83 | 1,425,000000 | 5% | 71,250,000 | Grant, loan |

Source: Profundo (2026, April), own calculations based on GCF reporting

### 3.2.4 Common patterns for the successful projects

The projects that mobilised private finance most successfully tend to share a few features: they are investable platforms rather than one-off public projects, they use concessional GCF capital to de-risk private investments, and they are concentrated in commercially recognisable energy-transition assets, especially renewable energy, solar, distributed energy, energy access, and climate funds. Overall, projects with the highest private mobilisation ratio often share the following characteristics.

First, the highest-performing projects often used fund, facility, or platform structures rather than one-off project finance models. These structures give private investors access to a pipeline of investments instead of exposure to a single asset. For example, the Green Growth Equity Fund achieved a mobilisation ratio of 7.22, while Project GAIA reached 7.18. Both appear to offer investors a structured investment vehicle rather than a single project-level intervention.

Second, the strongest projects often brought together many smaller investments into one larger opportunity for private investors. This is related to, but different from, the use of a fund or platform. The fund or platform is the structure investors put their money into; aggregation is what that structure does. It combines multiple projects, companies, countries, or assets into a broader portfolio. This matters because many energy-transition opportunities are too small, fragmented, or risky to attract large-scale private finance on their own. By grouping them together, a project can offer investors greater scale, spread risk across several investments, and reduce the cost of assessing and managing individual investments. For example, Climate Investor One (mobilisation ratio of 5.55), supports renewable energy projects across several countries. Climate Investor Two, with a ratio of 3.81, similarly operates through a portfolio of climate-resilient infrastructure investments. LEAF, with a ratio of 3.66, brings together decentralised renewable energy finance in several countries in Africa. The main attraction is likely the investment structure where the project converts multiple smaller or more complex opportunities into a larger, diversified portfolio with clearer risks, lower transaction costs, and a more credible route to return.

Third, the strongest projects were linked to commercially recognisable energy-transition markets. These include renewable power, solar, distributed energy, rooftop solar, mini-grids, and energy-access businesses. These sectors are attractive because they can generate revenues through tariffs, customer payments, power purchase agreements, or portfolio returns. The Pakistan

Distributed Solar Project had a mobilisation ratio of 4.40, while LEAF reached 3.66. This slightly contradicts the idea of additionality[ii], as it seems that private investors are best crowded in for projects that are already more feasible commercially; however, as GCF explained, it is moving away from financing conventional renewables towards less bankable but promising technologies and geographies.

[ii] The GCF has adopted a definition of additionality similar to that used by other funding agencies and has detailed it through its Innovation and Additionality Tool (IAT). The IAT defines additionality as follows: "A project or programme is considered additional if it would not have occurred in the absence of GCF funding".

# 4

# Barriers that prevent greater private capital mobilisation

**The PSF has helped mobilise private finance, but its overall performance has been constrained by long-standing challenges. This chapter aims to identify and summarise these challenges. The barriers are related to policy and market weaknesses, limited maturity of technologies and business models, financing constraints, and gaps in domestic financial systems, as well as GCF internal processes and operating modalities. Together, these factors reduce the PSF's ability to attract private investment at scale. The chapter also looks into how GCF has been dealing with these barriers.**

Preliminarily, the following groups of barriers have been identified in the 2022 *Review of the initial private sector facility modalities and the private sector strategy*[34]:

## 4.1 External barriers

### 4.1.1 Weak enabling environments

Private climate investment is often held back by weak policy signals, immature markets, and limited amount of the relevant data. In many countries, the rules and regulations that should support low-carbon and climate-resilient investment are either incomplete or not applied consistently. This leaves investors uncertain about which technologies, projects, or business models will continue to be supported over time. Where regulation is unclear or unstable, it becomes harder to price risk, forecast returns, or build a pipeline of investable projects.[35]

A further regulatory obstacle is the limited interoperability of green taxonomies across jurisdictions. The main frameworks (including the EU taxonomy, the ASEAN taxonomy, and a growing number of national taxonomies from Mexico to Kazakhstan) do not always classify economic activities in the same way. An activity that is considered green in one market may be treated differently, or not recognised as green at all, in another. This creates practical problems for issuers, investors, and regulators. It makes reporting more complex, raises compliance costs, and makes it harder to compare projects and portfolios across borders. For global investors operating in several markets, these inconsistencies can weaken confidence in sustainability claims and make it more difficult to build trust in the integrity of green investment frameworks, thus hindering their interest in energy transition projects.

Information gaps also add to investor uncertainty and unwillingness to fund many climate-related projects. Thus, in many markets, investors still do not have enough reliable data to judge climate-related risks and opportunities properly. Information is often limited on how exposed firms, assets, and supply chains are to physical risks such as floods, heat, drought, or storms, and to transition risks such as new regulations (for example, carbon pricing), changing technologies, or shifts in demand. Without this, it is harder to decide which projects are likely to remain viable over time.[36]

### 4.1.2 Technology and innovation gaps

Innovation and technology-related constraints also make it harder to expand private climate finance. In many markets, there are still too few incubators and accelerators focused on climate

technology, especially on non-conventional renewables. That limits the support available to early ventures trying to develop, test, and scale new solutions.

The problem is not only institutional but commercial. Proven business models for private investment in new technologies remain limited, which makes investors more cautious about entering these areas. The local innovation base is often thin as well. In many countries, there is not yet a strong enough ecosystem to build a critical mass of entrepreneurs working on locally grounded climate solutions or on new business models suited to local conditions. GCF notes that climate technology support infrastructure remains limited in developing countries: of an estimated 70 climate technology incubators and accelerators globally, only 25 were located in developing countries. GCF also recognises that innovation must be locally grounded, pointing to the need for "home-grown" business model innovation that is fit for purpose in developing-country contexts.[37] This matters because climate technologies and services often need to be adapted to specific contexts rather than copied directly from elsewhere.

Financing gaps add to the problem. Early-stage and pre-commercial technologies often struggle to attract capital, and funding for testing new business models is also limited. This includes shortages of seed finance and venture funding, which makes it harder for ideas to move from experimentation to bankable investment opportunities.[38]

### 4.1.3 Factors limiting private finance at scale

Mobilising private finance at scale remains difficult for several connected reasons. Many low-carbon and climate-resilient investments are capital-intensive and require substantial upfront financing,[39] even where they reduce operating and maintenance costs over time. The issue is not simply that these projects have long payback periods: fossil fuel infrastructure can also involve large upfront costs and long investment horizons. Rather, in many markets, climate-aligned investments face a less favourable risk-return profile because revenues may depend on newer business models, regulated tariffs, grid availability or policy incentives that investors perceive as uncertain.

The problem is even sharper in newer climate-related asset classes, such as ecosystem services or climate-resilient infrastructure, where investment models are still relatively undeveloped and are often still seen as the domain of public finance rather than private capital. At the same time, demand for climate-related products and services is often too small and too dispersed across developing countries to attract large institutional investors, who generally prefer larger and more standardised opportunities.

The constraints are particularly severe for micro, small and medium-sized enterprises (MSMEs). Many MSMEs lack a credit history, have weak credit ratings, or seek financing in amounts that are simply too small to interest major investors. These problems are compounded by weak aggregation and syndication mechanisms as well as by the high cost of insurance.

Cross-border investment faces further obstacles where there are no effective instruments to manage local currency and interest-rate risks, making international capital flows harder and more expensive to mobilise.[40]

### 4.1.4 Weak domestic financial markets

Domestic financial systems can themselves be a major constraint on climate investment. Many banks, investors, and other financial institutions still do not consistently incorporate climate risks and opportunities into valuations, credit decisions, or investment methods. Though the problem is especially acute for adaptation projects, where financial returns are often harder to measure using conventional tools, mitigation projects are also affected.

In addition, many intermediaries still have limited ability to identify, structure, and assess climate-related investments. Even where capital is available, there may be too little technical expertise to

turn climate priorities into a pipeline of investable projects. These constraints are compounded by weak local capital markets and limited access to global capital markets. This is particularly the case in many countries in the Global South, where climate finance is most urgently needed but domestic financial systems are often least able to provide long-term capital at the scale required.[41]

A related issue is that in many lower-income and financially shallow markets, the pool of local private investors is very small. Domestic institutional investors, commercial lenders, and private equity actors may be limited in number, risk appetite, or available capital, especially for newer climate-related sectors. This narrows the scope for mobilising local private finance through the GCF. In practice, projects may therefore depend more heavily on public financial actors, such as national development banks, bilateral development agencies, or other public finance institutions. This may help explain why a number of projects presented under the PSF are, in reality, backed mainly by public rather than private institutions.

During the interview, GCF also explained that the broader country environment has a major effect on whether private finance could be mobilised. In one example, a similar renewable-energy framework that had worked in Egypt did not work elsewhere because the country faced IMF bailouts, utility default, and a collapse in investor confidence. The point was that some barriers sat outside GCF's direct control.[42]

The interviews also emphasised that some barriers are linked to perceived rather than real risks. GCF described its role as operating in situations where investments are not happening, sectors are not yet sufficiently developed, risks are perceived to be high, business models do not yet exist, and no suitable financing is available. In such cases, the aim is not only to finance a project, but to open a window for later investors to follow.[43]

## 4.2 Internal barriers

Internal factors, notably, the accreditation process, decision-making modalities, and long timelines also affect the efficiency and scale of attracting private capital, including for the energy transition projects.

### 4.2.1 Processes and procedures

An academic study focusing on the GCF and private sector climate finance in the Global South, published in November 2023, shows that GCF's internal processes slow the mobilisation of private finance because the Fund's operating model is still built around lengthy accreditation, centralised approval, intensive review, and heavy reliance on intermediaries. It concludes that for private actors, this creates high transaction costs, uncertain timelines, and weak visibility over when capital can actually be deployed. Thus, the accreditation process appears to be too lengthy and cumbersome for private entities, especially direct access entities, and therefore private sector projects take longer than public sector projects to move from proposal submission to Board approval — around 228 days versus 200 days. The GCF's own evaluation also describes the process and duration as unattractive and unpredictable for private actors.[44]

### 4.2.2 GCF's role in mobilisation and reliance on public Accredited Entities

A second problem is that GCF's internal architecture channels much of "private sector" activity through public accredited entities and public finance institutions, rather than through firms bringing in clearly committed commercial capital. Among approved private sector projects, only 17 of 42 are implemented by private accredited entities, while a much larger share of co-financing is implemented through public entities. A significant portion of financing in the private sector portfolio comes from the GCF itself or from other public development banks, not from private investors. In some cases, projects are approved even though private capital is still only prospective, which weakens the credibility of mobilisation claims.[45] These conclusions are fully in line with the outcomes of this report, which also show that much of the funding channelled to the

PSF project is coming from GCF and public sector investors (notably, regional and national development banks, development corporations, and development aid agencies.

In addition, GCF does not always raise private co-financing itself. In the Kazakhstan/FP047 case, GCF provided USD 110 million, while the European Bank for Reconstruction and Development (EBRD) was described as one of the key contributors and the party responsible for raising co-financing. This means GCF's direct role in filling the co-financing gap can be limited in some deals.[46]

This interacts with a third constraint: GCF rules and procedures can be difficult and costly to navigate, leading countries and smaller actors to rely more on intermediaries. In *The Green Climate Fund Lacks Procedural Justice*, published by the Seven Pillars Institute, the author writes that the GCF has "*infamously strict policies, fiduciary standards, and safeguards*" and links this to long disbursement times. The same paper also says accreditation is difficult, expensive, and time-consuming.[47]

To address these issues, the Simplified Approval Process (SAP) was introduced as a faster, easier route for smaller, lower-risk climate projects, especially for vulnerable countries that struggled with the full GCF process. However, it largely failed to do that. The GCF Independent Evaluation Unit (IEU) found that SAP did not really simplify requirements or speed up approvals. Instead, GCF kept the same basic model: full Board approval, the same investment criteria, and similarly heavy review processes. In practice, SAP became very close to the regular approval process rather than a genuinely lighter track. Its median processing time was about 12 months, applications often went through several review rounds, preparation costs could reach USD 750,000, and applicants sometimes received conflicting feedback. Therefore, SAP is useful here as an example of the wider problem: even when GCF tried to shorten timelines, its internal decision-making and review culture were too rigid to achieve that.[48]

However, the interviewee also referred to the PSAA route as an attempt to broaden access beyond accredited entities, but with an important limitation. PSAA allows GCF to work with non-partners, but only once: repeat projects with the same entity are not possible through that route. However, with the adoption of the new accreditation approach, the limitation of one project under PSAA can be addressed.[49]

## 4.3 Key takeaways and GCF response to overcome the barriers

Therefore, the existing literature and interviews suggest that the main constraint is not an isolated procedural problem, but the overall way in which GCF approval, accreditation, and implementation processes are organised. The GCF's delivery model often relies on accredited entities, including large public international intermediaries, rather than direct engagement with local private actors. This can limit GCF's ability to originate, structure, and repeat transactions directly with private-sector partners, even though recent tools such as PSAA and the revised accreditation framework are intended to broaden access. This combination may help explain why a significant part of the PSF portfolio still depends on public institutions and public funding, and why private co-financing is sometimes mobilised by partner institutions rather than by GCF itself. Read together, the sources suggest that GCF's internal arrangements shape how private finance is mobilised: they are designed to manage public climate finance responsibly, but may not always align easily with the timelines, structures, and repeat-transaction logic of private capital.

At the same time, the interviews also show that GCF is actively trying to overcome these barriers. Platform and fund mechanisms such as the Green Growth Equity Fund can help crowd in private investors when the structure is well designed, the fund manager is credible, and GCF capital is deployed conditionally. In that case, GCF's junior position and proportional deployment of capital helped provide downside protection while keeping the fund manager incentivised to bring in private investors. This suggests that, under the right conditions, GCF's model can mobilise private capital into less familiar climate sectors, not only into already bankable renewable energy projects.

On project level, GCF sought to navigate mobilisation barriers by identifying the specific constraint that its capital or support could address, rather than acting as a generic gap-filler. For example, in the Kazakhstan renewables framework, the relevant barriers included lack of long-term finance, constrained equity availability, perceived macroeconomic and first-mover risks, foreign-exchange constraints, grid-integration issues, weak institutional capacity, and the continued cost advantage of coal. GCF's response combined concessional long-term finance with technical assistance, regulatory support and policy dialogue, including support for renewable energy auctions, carbon-market development and the wider enabling environment.[50]

The Green Growth Equity Fund illustrates a different route. There, the barriers included limited local financial-market capacity, low international investor risk appetite, perceived risks around new green sectors, and the fact that the fund was a first-time vehicle. GCF responded by taking a junior/equity position that provided downside protection to private investors, while also using technical assistance to address capacity, knowledge and policy gaps.[51] The interviews add that GCF did not put all its money in upfront: its capital was deployed proportionally as private investors joined, which helped keep the fund manager incentivised to mobilise private capital rather than substitute it with concessional finance.[52]

# 5

# Case study: Green Growth Equity Fund

**This chapter examines Project FP164 – Green Growth Equity Fund. The project has been selected because, although it is not solely focused on the energy transition, it includes a substantial energy generation and access component (33%), which is significant given the overall scale of the fund. The rest of the portfolio is spread across e-mobility (23%), energy services (21%), and resource efficiency (23%). This makes the project relevant to the report, not as a pure energy transition case, but as a large blended-finance vehicle in which energy transition still represents a prominent share. The project is also notable for its scale. The cumulative volume of finance reported as leveraged by GCF funding amounts to USD 2.306 billion, of which USD 989 million is recorded as private sector finance, implying a mobilisation ratio of 1:7.2. Since it has been under implementation since March 2021, it offers enough history to examine not only its structure, but also its performance to date. Its implementation through the Dutch Entrepreneurial Development Bank (FMO) also makes it possible to complement document review with project-specific insights from interviews.**

## 5.1 Project background

The Green Growth Equity Fund (GGEF) is India's first climate-focused alternative investment fund, specifically designed to mobilise large-scale institutional capital into the country's green infrastructure. Established as a public-private partnership, the project was approved by the GCF Board in March 2021 and officially entered implementation in November 2021 with a projected completion date of March 2030. The fund achieved its final close in December 2021 at USD 741 million, with the investment period concluding in April 2023. The primary objective of GGEF is to reduce climate change impacts by investing in rapidly scalable, sustainable businesses. Its core targets include avoiding 166 million tonnes of carbon dioxide equivalent ($CO_2e$) over the fund's lifetime and creating approximately 20,000 new jobs.

The fund focuses on three strategic pillars:

- acquiring controlling interests in green infrastructure,
- investing in scalable platforms (greenfield and brownfield), and
- institutionalising innovative business models to increase commercial viability.

The project is managed by EverSource Capital, a joint venture between the Indian private equity firm Everstone Capital and the global solar leader Lightsource bp. The Nederlandse Financierings-Maatschappij voor Ontwikkelingslanden (FMO) serves as the Accredited Entity (AE), overseeing compliance and channelling funds.

## 5.2 Project outcomes to date

GGEF was structured as a blended programme combining GCF junior equity (USD 132.5 million) with a Technical Assistance grant (USD 4.5 million).[53] The fund's investor base was anchored by India's National Investment and Infrastructure Fund (NIIF) and the UK's Foreign, Commonwealth and Development Office (FCDO), and at close, the fund reports a total size of USD 741 million with NIIF and FCDO each at USD 155 million, alongside bp and other investors.[54] In the same 2022

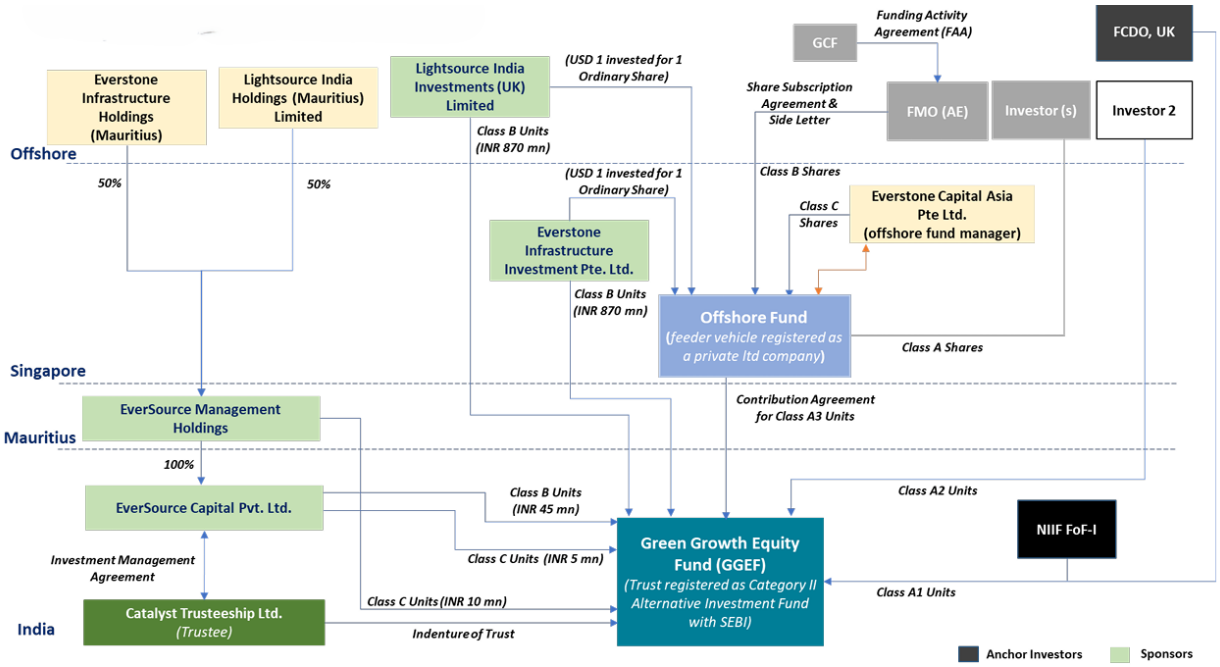
reporting, GGEF states it had made commitments of USD 519 million across seven portfolio companies spanning renewable energy generation and distribution, e-mobility, waste management, water management, and green finance.[55]

By end-2022, the fund's portfolio included Ayana Renewable Power (utility-scale renewables) in which the fund held a minority stake, and Radiance Renewables (a commercial and industrial renewables platform) as a wholly-owned subsidiary; the Annual Performance Report (APR) lists ownership of 16.77% in Ayana and 100% in Radiance.[56] The 2023 APR describes "value creation" primarily in terms of operational scale-up across the platforms; as of 31 December 2023, it reports Ayana at about 4.6 GW total capacity (roughly 1.4 GW operational) and Radiance at 412 MW operational with 127 MWp under construction.[57] The 2022 APR explicitly notes that portfolio companies were in a "value creation phase" and that there was no exit-related planning or status updates at that time.[58]

Subsequently, external reporting in February 2025 reported that the investors had agreed to exit Ayana. NIIF, British International Investment (BII) and Eversource are reported to have agreed in February 2025 to sell Ayana to ONGPL (a joint venture of Oil and Natural Gas Corporation (ONGC) and National Thermal Power Corporation (NTPC)) at an enterprise value reported as Rs 19,500 crore (USD 2.3 billion).[59] The same article states Ayana had close to 4.1 GW of operational and under-construction wind and solar assets at the time.[60] In parallel, an external credit signal emerged for Radiance: Investment Information and Credit Rating Agency (ICRA) downgraded Radiance Renewables' long-term rating from "A" to "A-" and revised the outlook to "negative" in July 2025, citing delays in capacity additions, including the use of roughly USD 55 million (Rs 525 crore) of mezzanine debt and a slower-than-expected buildout; the same article states Radiance had 610 MW operational capacity as of June 2025 and aimed to scale to 2,000 MW by 2028.[61]

Alongside these investment outcomes, GGEF's documentation positions the Technical Assistance (TA) component as a mechanism to address "capacity, knowledge and policy gaps" in the target sectors, complementing the investment strategy.

**Figure 5 GGEF architecture**




Green Climate Fund (2021, April 6), Funding Proposal FP164: Green Growth Equity Fund, p. 32

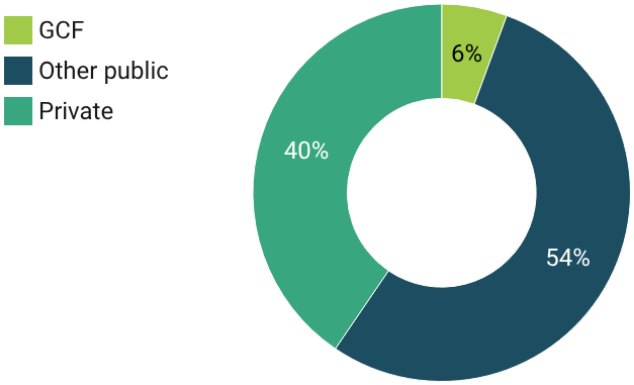
By the 2022 reporting cycle, the fund reports that it had established the internal capability to run TA and embed operating best practice across portfolio companies, including development of a TA Operations Manual approved by the GCF, and preparation work such as identification of TA projects with budgets and procurement plans approved in December 2022 (while also noting that no TA capital had yet been disbursed at that point).[62] In the subsequent 2023 reporting, the fund indicates that the TA facility had moved into execution through the initiation of multiple TA streams and procurement actions, including feasibility and technical studies on a power-integration module for hybrid renewable power and on e-micro mobility solutions, as well as other pilots and studies such as EV smart metering and charging-infrastructure work; it further reports that vendor selection was underway and that two vendor contracts had been issued by December 2023, with the resulting final reports and findings expected in the next reporting period.[63]

In addition, the 2023 APR shows that the GGEF put in place a fund-wide tool to measure climate performance across its entire portfolio. It states that Eversource rolled out a digital tool called Updapt to all portfolio companies to track and calculate their greenhouse gas emissions, including emissions from their own operations and those linked to the energy they use and their wider value chains. The tool also records the emissions avoided through the companies' activities, and the results are compiled every quarter for the fund manager and included in reports to investors. By the end of 2023, the fund reported cumulative emission reductions of 7,814,799 tonnes of $CO_2e$ and reported renewable energy capacity of 1.924 GW against the final target of 6 GW.[64]

## 5.3 Catalytic effect and private finance mobilisation ratio

Green Growth Equity Fund was approved with USD 137 million in GCF financing, structured primarily as equity with an associated grant component, within a total fund/project financing envelope reported at approximately USD 944.5 million at the funding proposal stage. On that basis, the implied non-GCF financing was then approximately USD 807.5 million (the difference between the total envelope and the GCF amount). The Funding Proposal does not provide a named breakdown of that non-GCF amount by investor or by strict public versus private origin, so it cannot be classified rigorously at the approval stage. However, the Annual Performance Report for 2022 provides more substantive insight into mobilisation outcomes.[65] It reports a cumulative total volume of finance leveraged by GCF funding of USD 2.306 billion, of which USD 989 million is recorded as private sector finance leveraged. By implication, approximately USD 1.317 billion of the cumulative leveraged volume is public (non-GCF). This indicates that, as of 2022, roughly 43% of the verified leveraged capital mobilised through the fund structure is classified as private in GCF's results reporting.

**Figure 6 Co-financing mobilised by the GCF for the GGEF project**




Green Climate Fund (n.d.), "List of approved projects", online: https://www.greenclimate.fund/projects, viewed in March 2026.

The APR shows that the finance was leveraged through GGEF's equity-fund structure rather than through a single project-level instrument. GCF's support was provided mainly as equity, and the fund invested equity into portfolio companies, which in turn raised additional debt and equity. The energy-transition-relevant investments included utility-scale renewable energy through Ayana, commercial and industrial renewable energy through Radiance, e-mobility through GreenCell and Lithium, and green finance for assets such as rooftop solar and electric vehicles through Ecofy. However, the APR (nor other GCF public disclosures concerning the GGEF project) does not disaggregate the USD 989 million of private finance leveraged at a more granular level.[66]

**Table 2 GGEF energy transition focus**

| Portfolio company | Type of renewable/energy-transition activity |
|---|---|
| Ayana | Utility-scale renewables: solar, wind, hybrid, round-the-clock renewable assets |
| Radiance | C&I distributed renewables: solar, hybrid wind-solar, behind-the-meter solutions, battery storage |
| EverEnviro | Waste-to-energy / bioenergy: compressed biogas from waste and biomass |
| Ecofy | Green finance, including rooftop solar and electric-vehicle finance |
| GreenCell / Lithium | E-mobility rather than renewable generation |

Sources: ODI Global (2025), Ayana Renewable Power, London, United Kingdom: ODI Global, p. 1; FMO (2025, August 21), "Radiance Renewables Private Limited", FMO, online: https://www.fmo.nl/project-detail/65256, viewed in May 2026; MO (2026, February 9), "FMO strengthens India's C&I renewable energy scale-up with a new equity investment in Radiance Renewables", FMO, online: https://www.fmo.nl/news-detail/ccd12e9f-4089-45df-a9a1-18581b773381/fmo-strengthens-india-s-c-i-renewable-energy-scale-up-with-a-new-equity-investment-in-radiance-renewables, viewed in May 2026; EverEnviro Resource Management Private Limited (2023, September 26), "EverEnviro plans to expand its footprints PAN India", EverEnviro Resource Management Private Limited, online: https://www.everenviro.com/assets/document/Press%20Release_EverEnviro%20plans%20to%20expand%20its%20footprint%20across%20India%20.pdf, viewed in May 2026; Ecofy Finance Private Limited (2024), Annual Report 2023–24: Finance for a Greener Tomorrow, Mumbai, India: Ecofy Finance Private Limited, p. 6; GreenCell Mobility (n.d.), "GreenCell Mobility", online: https://greencellmobility.com/, viewed in May 2026.

The cumulative leveraged finance reported in the APR is much larger than the approval stage fund size because it reflects the downstream capital mobilised at the level of portfolio investments, not only the headline fund capitalisation.

During the interview, GCF explained that it provided junior capital, meaning it would absorb losses first if the fund underperformed. This acted as a form of protection for private investors, especially overseas investors. GCF did not commit its full investment upfront without conditions. Instead, its concessional capital was linked to the mobilisation of private investors. GCF would increase its investment proportionally as other investors joined. This structure incentivised the accredited entity and executing entity to keep bringing in private investors.[67]

On replicability, GCF explained that it was looking for opportunities similar to the GGEF globally, including private fund transactions in Southeast Asia and Africa. However, it emphasised that fund manager capacity is the key factor. Local competitiveness and managers' ability to execute transactions were described as essential. GCF's downside protection can then work together with the manager's capacity to bring private investors into new or less familiar sectors. Government support was also described as helpful, although GCF pointed out that it can be more difficult in smaller countries or in developing economies. GCF further explained that the Green Growth Equity Fund model cannot simply be replicated in every market. Private equity funds require certain market conditions, including an active exit window and a pipeline of investable opportunities. In countries with less mature capital markets, GCF may use other tools, such as direct transactions or project finance. GCF gave an example of a smaller African transaction, where GCF invested around USD 40 million and the final fund size was expected to reach around USD 200 million. GCF explained that in markets such as Kenya or India, where capital may flow into start-up sectors, it

may selectively support these transactions. Where there is no deep market depth through the company cycle, GCF generally prefers the other forms of investment to relatively more complex private fund transactions.[68]

## 5.4 Key takeaways

In terms of mobilising private finance, the project appears to be a success. GCF reporting states that the fund leveraged USD 2.306 billion in total finance, of which USD 989 million was classified as private sector finance. This indicates that the fund did achieve a central objective of the blended-finance model: using concessional GCF capital to attract additional capital at scale, including a substantial volume from private actors. Although the approval-stage documents do not provide a fully rigorous public-private breakdown of all non-GCF funding, GCF's later results reporting indicates that private capital mobilisation was significant.

In terms of energy transition outcomes, the results are more mixed. On the one hand, GCF's own reporting shows clear progress. By the end of 2023, the fund reported 1.924 GW of renewable energy capacity and 7.8 million tonnes of $CO_2e$ in cumulative emission reductions. The portfolio also included major renewable energy platforms such as Ayana Renewable Power and Radiance Renewables, and the technical assistance facility had moved from design into implementation. In addition, the fund established a portfolio-wide system for tracking greenhouse gas emissions and avoided emissions. These are important indicators that the project has generated real energy transition outputs. On the other hand, these results remain partial rather than fully achieved when measured against the project's longer-term targets, e.g. the renewable energy capacity reported by the end of 2023 was still well below the 6 GW goal.

In the Indian context, the 1.924 GW of renewable energy capacity additions enabled by GGEF were not negligible. The figure remained small relative to India's overall power system (total installed power capacity reached about 442 GW in FY2023–24) but it was sizeable when set against annual capacity additions. In FY2023–24, India added around 18.6 GW of renewable energy capacity and 25.9 GW of total net power capacity.[69] However, this comparison requires caution. The 1.924 GW figure is the cumulative renewable capacity supported by GGEF by the end of 2023; the India figures refer to new capacity added in one financial year. It should therefore not be read as showing that GGEF accounted for 10.3% of India's renewable additions in FY2023–24. Rather, it indicates that the cumulative capacity supported by GGEF had reached a scale equivalent to 10.3% of India's renewable capacity additions in that year, and 7.4% of total net power-capacity additions.

The more recent results reported in business periodicals also demonstrate mixed business results. The agreed sale of Ayana in 2025 suggests commercial value creation from a single major investment, while the 2025 downgrade of Radiance Renewables points to delays in capacity additions, slower-than-expected buildout, and financial pressure.

This means that, although the fund has produced measurable progress, the evidence does not yet show that its energy transition objectives have been fully realised. Overall, the strongest conclusion is that the project has been more successful in mobilising private finance than in fully achieving its energy transition results so far. It has clearly attracted substantial private capital and supported the growth of renewable energy platforms at scale. However, the available evidence shows that the transition results are still a work in progress: progress is tangible, but final targets have not yet been reached, and some portfolio developments raise concerns about the pace and resilience of the future delivery.

# 6

# Case study: GCF-EBRD Kazakhstan Renewables Framework

**This chapter examines Project FP047 – GCF-EBRD Kazakhstan Renewables Framework. The project has been selected because it is fully dedicated to energy access and power generation, specifically focusing on scaling up renewable energy capacity in Kazakhstan. This makes the project highly relevant to the report, as a dedicated energy transition vehicle designed to overcome barriers to private-sector investment in renewable energy. The project is also notable for its established implementation history, having been approved in November 2017, which provides a substantial timeframe to examine its performance and evolution. By the end of 2024, FP047 had supported eight renewable energy generation projects, delivering a combined installed capacity of 496 MW, alongside one grid-enhancement project. Together, these projects represent total investment of around USD 600 million, including USD 87.4 million in GCF contribution.**

## 5.5 Project background

Kazakhstan is one of the largest greenhouse gas emitters in Central Asia, reflecting its continued dependence on fossil fuels. In 2023, coal and coal products accounted for 49% of total energy supply, while natural gas accounted for a further 27%.[70] At the same time, the country has significant renewable energy potential, including wind, solar and hydro resources. Diversifying the energy mix and decarbonising the economy are therefore also on the agenda for the Government of Kazakhstan, supported by renewable energy regulations including feed-in tariffs and the ongoing development of an auction scheme. Against this background, FP047 aims to accelerate Kazakhstan's renewable energy market by reducing barriers for low-carbon investors in a power sector still dominated by fossil fuels. It supports new renewable energy capacity, grid upgrades, regulatory reform, and sector capacity building, including measures to promote gender equality.[71]

The first component is designed to scale up renewable energy investments by financing 8–11 renewable energy and grid-related sub-projects. The financing is intended to provide long-term, competitively priced debt that is otherwise limited in Kazakhstan's domestic market, helping make renewable energy projects financially viable.[72]

The second component focuses on enhancing renewable energy integration, policies and planning through USD 4 million in GCF-funded technical assistance. This support is intended to improve Kazakhstan's renewable energy legal and regulatory framework, including further development of the auction system and planning capacity.[73]

## 5.6 Project outcomes to date

At the funding proposal stage, the project aimed to mobilise USD 557 million, including GCF funding of USD 106 million for the renewable energy development and another 3.5 million for technical assistance and policy engagement. Then envisaged co-financing included USD 214 in a senior loan from EBRD, USD 93 in a senior loan from other lenders, USD 137 in equity from project sponsors, and a USD 3 million grant from EBRD or other donors.[74]

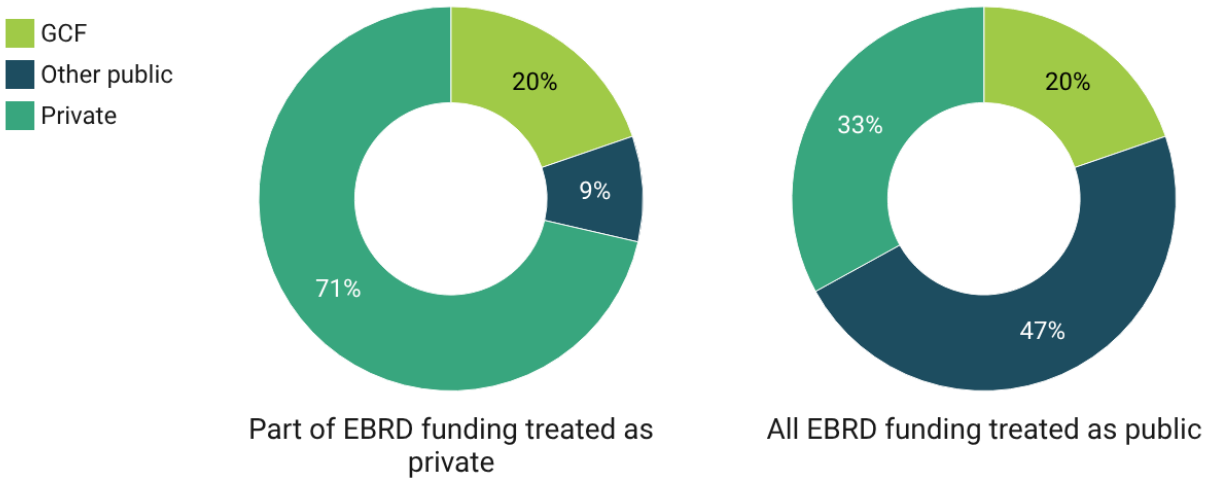
According to the 2024 Annual Performance Report published in March 2025 (the most recent APR currently available), as of 31 December 2024, the funded activity had supported eight renewable energy generation projects with a combined installed capacity of 496 MW, as well as one grid-enhancement project. Total investment exceeded USD 620 million, comprising USD 87.4 million from GCF, USD 234 million from EBRD, USD 85.6 million from other co-financiers, and USD 213 million in equity.[75]

Based on the reporting shared with Profundo directly by the GCF, the approved financing package for FP047 amounted to USD 557 million. GCF financing totalled USD 110 million, consisting of USD 106 million in senior loans and USD 4 million in grants.

The remaining USD 447 million was reported as co-financing. Of this amount, USD 398 million was classified as private finance, comprising USD 214 million in senior loans from EBRD, USD 46.5 million in senior loans from other lenders, and USD 137 million in sponsor equity. A further USD 49.5 million was classified as public finance, comprising USD 3 million in grants from EBRD and/or other donors and USD 46.5 million in senior loans from other lenders.

On this basis, GCF resources represented around 20% of the total approved financing package, while reported co-financing accounted for around 80%. Within the co-financing total, finance classified as private represented approximately USD 398 million, or around 71% of the total package. This private classification includes the USD 214 million senior loan from EBRD, reflecting GCF's reporting treatment of that financing, notwithstanding EBRD's status as a public institution. GCF explained that DFIs may provide funding either from their own public balance sheets or through market-based, non-sovereign and commercially oriented instruments mobilised alongside private sector actors. Where DFI financing functions as market-based capital within a transaction, it may therefore be recorded as private co-financing, even though the originating institution itself is public. GCF further clarified that many private sector operations involve blended structures in which GCF concessional finance is combined with private equity sponsors, local commercial banks and DFI instruments provided on commercial or near commercial terms. In those cases, although a DFI may be the lender, the financing contributes to private capital mobilisation and is treated accordingly in reporting.

**Figure 7** **Private finance mobilisation depending on the treatment of EBRD financing**




Source: Profundo (2026, April), own calculations based on GCF reporting

If, however, all EBRD financing were instead treated as public finance, the private finance figure would fall from USD 398 million to USD 184 million, or around 33% of the total financing package.

## 5.7 GCF's approach, additionality, and replicability

The project can be seen as successful in mobilising substantial co-financing for renewable energy investment, but its additionality and private finance mobilisation need to be interpreted carefully.

During an interview, GCF explained that at the time FP047 was approved, Kazakhstan's renewable energy market was still at an early stage of development. Renewable energy accounted for less than 1% of generation, while the sector faced a combination of financial, regulatory, and market barriers, including limited availability of long-term financing, high first-mover risk, and infrastructure and institutional constraints. Accordingly, part of the rationale for the transaction was to facilitate the competitive entry of low-carbon investors, unlock a first pipeline of private renewable projects, and demonstrate that such projects could be financed and implemented under local market conditions.[76]

In that sense, FP047 reflected a phase in which GCF's private-sector engagement focused on enabling market entry in nascent environments, in which support for relatively conventional renewable energy investments could be justified when enabling conditions remained underdeveloped. At approval, the intervention was explicitly structured to address binding barriers – most notably the absence of long-term project finance, cost disadvantages relative to coal, and limited private sector participation – while also contributing to regulatory development and institutional capacity-building.[77]

The interviewee explained that GCF applies a barrier-based selection logic, assessing what specific constraint its financing addresses, whether the project would proceed without that intervention, and whether the contribution is sufficiently additional and catalytic. This does not mean that renewable energy projects are bankable everywhere, but it does mean that GCF's approach is bespoke, barrier-driven, and closely tied to a clear theory of additionality.[78]

In FP047, private co-financing mobilisation was enabled through the broader blended-finance structure led by EBRD, with GCF's participation playing a critical role in shaping the overall risk-return profile of the transaction and allowing additional capital to be mobilised alongside it. GCF contributed USD 110 million, comprising a USD 106 million loan and a USD 4 million grant.[79] The financing package combined GCF concessional resources with EBRD and other co-financing to support a total programme of approximately USD 550 million. Mobilisation outcome also relied on EBRD's structuring capacity, local presence, government relationships and ability to attract or coordinate other lenders and sponsors.[80]

This is consistent with GCF's operating model, in which accredited entities lead structuring and implementation, while GCF capital is deployed to address specific market failures and investment constraints.[81]

The interviewee stressed that GCF's role was catalytic in several interrelated respects. Its concessional financing directly addressed the lack of long-term debt and the cost-risk imbalance faced by early renewable projects in Kazakhstan, helping to bridge a capital gap that would otherwise have limited project viability.[82]

At the same time, the intervention was designed to crowd in private investors and establish a first set of bankable transactions, with an explicit demonstration effect intended to attract future commercial lending once precedents were established.[83]

Importantly, this catalytic effect extended beyond individual projects: the programme combined investment with technical assistance and policy dialogue to strengthen the regulatory framework (including feed-in tariffs, auctions, and carbon market integration) and build institutional capacity necessary for sustained market development.[84]

Implementation evidence broadly supports this catalytic narrative. The programme has delivered multiple renewable energy sub-projects, scaled installed capacity, and achieved measurable emissions reductions, while leveraging substantial co-financing and maintaining alignment with its intended outcomes.[85]

At the same time, GCF explained that implementation has highlighted persistent structural constraints – including delays linked to external shocks and remaining limitations in carbon market integration – underscoring that market creation remains incomplete and requires continued intervention beyond individual transactions.[86]

In that sense, the FP047 experience is consistent with GCF's wider strategic focus on targeted, country-anchored, and market-creating private-sector interventions. It illustrates how interventions can be structured to enable initial market entry while also supporting broader system-level objectives, including barrier removal, policy development, and the establishment of sustainable investment pathways over time.[87]

## 5.8 Key takeaways

FP047 remains relevant as a replicable market-building model, particularly in less mature markets where renewable energy projects still face clear financing, regulatory or implementation barriers. Its strongest lesson is the combination of concessional finance, an institutionally strong implementation partner, and enabling-environment support. Since FP047 was approved, however, GCF's approach has evolved: conventional renewable energy projects are now less likely to qualify for support where they are already bankable. A similar project today would need to demonstrate more clearly what specific barrier GCF finance is overcoming and how its participation adds value beyond filling a financing gap. Replication would therefore be strongest where GCF can help structure higher-quality, more innovative transactions, including through instruments such as subordinated debt, mezzanine finance or other risk-sharing structures.

# 6

# Conclusions and recommendations

## 6.1 Conclusions

- **Reliance on public funding, even under the private sector facility projects**

  GCF's Private Sector Facility has been relatively successful in mobilising co-financing. However, when the reported figures are scrutinised more narrowly for unambiguously private capital and specifically for the energy transition, the results appear to be more moderate. Much of the mobilised financing is in fact sourced from public institutions (primarily, national public banks or development corporations, bilateral development agencies, and multilateral development banks). GCF explained that DFIs may provide funding either from their own public balance sheets or through market-based, non-sovereign and commercially oriented instruments mobilised alongside private sector actors. However, the current reporting does not allow a disaggregation of such instruments.

- **Insufficient focus on energy transition**

  Despite the importance of the energy transition for achieving the Paris goals, not all PSF projects included components for renewable energy generation or energy storage. Of the 84 projects approved by early 2026, only 59 included such components, of which 50 disclosed a specific % of funding dedicated to energy generation and access. This percentage varied from 5% to 100% (typically 25%-50%), and only 20 projects were fully dedicated to energy transition, or about a quarter of the total number of projects in the PSF portfolio. This suggests that energy transition is often embedded within broader multi-sector structures rather than treated as the sole focus of PSF support. However, the interviews indicate that this should not be read simply as a lack of interest in energy transition. GCF appears to be increasingly selective within the energy-transition value chain, moving away from conventional utility-scale renewables where they are already bankable and focusing more on segments or contexts where additionality is clearer, such as distributed generation, off-grid solar, storage, or less mature markets.

- **Institutional and procedural factors are affecting mobilisation**

  The analysis points to several internal process-related constraints within the GCF that affect engagement with private sector actors. These include lengthy accreditation procedures, extended project review and approval timelines, multiple layers of assessment, and limited flexibility in adapting documentation and structuring requirements to different types of private-sector transactions.

  Such processes can be difficult to reconcile with investment decisions that are often time-sensitive and commercially driven. In addition, the overall complexity of project preparation and approval may increase transaction costs for prospective partners, particularly for smaller or less established entities. These features of the GCF process appear to be an important part of the institutional context shaping its private finance mobilisation performance.

- **External market and country conditions remain a major constraint**

  Private finance mobilisation is also constrained by factors outside GCF's direct control. The interviews highlighted that investor appetite depends strongly on macroeconomic stability,

country risk, counterparty reliability, local capital-market maturity, and whether investors are familiar with the relevant market. In some cases, the issue is not only actual risk but perceived risk: international investors may attach a higher risk premium to developing-country markets because they do not understand them well. This helps explain why GCF support may be needed even where the underlying technology is already commercially proven.

- **Indications of stronger mobilisation in projects with equity elements**

  For GCF energy transition projects with verified private capital mobilisation of at least 2x, loans appear to have been the dominant instrument, featured in 7 projects and absent in only 4. Grants were also nearly universal, with only three projects lacking a grant component, while guarantees were used much less sparingly, appearing in only four cases. Equity was included in just three projects, making it less common than loans or grants. However, despite its lower frequency, equity appears to be associated with stronger private finance mobilisation outcomes, as the projects with the highest mobilisation ratios include FP164 Green Growth Equity Fund, FP152 Global Subnational Climate Fund, and SAP037 Avaana Sustainability Fund.

- **Grants remain essential in the energy transition**

  Although grants may not emerge as the strongest instrument for directly measurable private finance mobilisation, their role in energy transition projects should not be understated. Grant elements were present in nearly all projects in the sample, with only about 10 of the almost 50 projects lacking such support. This widespread use reflects the distinct comparative advantage of institutions such as the GCF.

  As a public climate finance institution, the GCF is uniquely positioned to fund readiness activities that private actors are typically unable to support, including feasibility studies for new technologies, regulatory and policy reform, advocacy and stakeholder engagement, and analytical work that underpins government incentives and broader market development. These interventions are often crucial for project viability and sector transformation (even if their effects are not immediately visible). In this sense, grants play an important role in shaping the policy landscape and enabling environment for energy transition investment. Their benefits may materialise only over the longer term, but they remain essential for addressing upstream barriers and creating conditions for private capital to participate at scale later. For this reason, grant-based interventions should be recognised as a strategic component of the GCF's mandate and as an area that may require continued strengthening and replication. At the same time, their strategic value must be weighed against the fact that grants are not repaid and therefore impose a full budgetary cost on public financial institutions.

- **Guarantees appear useful for solar and decentralised renewable-energy projects, but remain underused**

  Guarantees were used far less often than grants, loans or equity, but the reviewed projects suggest that they can be effective in mobilising private finance for energy-transition investments. Only four of the 32 energy-transition projects with verified private finance used guarantees, yet all four included solar-related activities and recorded mobilisation ratios between 1.55 and 4.40. The strongest examples were the Pakistan Distributed Solar Project and LEAF. This points to a specific role for guarantees: they can help where the technology is familiar and commercially viable, but investors remain concerned about risks outside the technology itself, such as payment default, political risk, currency-transfer restrictions, contract breaches or wider country risk. The sample is small, so the finding should be treated as indicative rather than conclusive.

## 6.2 Recommendations

This section outlines key recommendations for further strengthening private finance mobilisation. While some focus on processes or structures specific to the GCF, most are also relevant to other

development and climate finance institutions and should be used to strengthen their efforts to unlock private capital for a just transition.

- **Link Readiness Programme more directly to future PSF programming**

  GCF should make stronger use of Readiness to prepare markets before PSF capital is deployed. Rather than treating Readiness mainly as general capacity support, GCF should use it to reduce the specific perceived risks that prevent private investors from entering new markets: unclear regulation, weak counterparties, limited project pipelines, poor data, and uncertainty about government commitment.

- **Expand the strategic use of equity-based instruments in energy transition projects**

  The findings suggest that, although equity is used less frequently than grants or loans, projects that include an equity element appear to achieve some of the strongest private finance mobilisation outcomes (FP164: Green Growth Equity Fund, FP223: Project GAIA). The GCF and other climate financiers should therefore make more systematic use of junior equity, first-loss equity, and fund-based equity structures in energy transition sectors where revenue uncertainty, construction risk, or market immaturity make conventional debt less effective. This is particularly relevant for scalable clean energy platforms, distributed renewables, storage, and other segments where private investors may be interested but remain deterred by downside risk. A more deliberate expansion of equity-based instruments could improve the Fund's catalytic effect where commercial finance is not yet prepared to take early risk.

- **Prioritise fund, facility and platform structures where they can aggregate pipelines and diversify risk**

  The report's strongest mobilisation cases suggest that GCF and other development and climate finance institutions should make more deliberate use of fund, facility, and platform mechanisms where individual projects are too small, fragmented, or unfamiliar to attract institutional investors on their own. These structures can aggregate multiple assets, companies or countries into a larger portfolio, spread risk, reduce transaction costs and offer investors a clearer route to return. The Green Growth Equity Fund also shows that combining more commercially familiar sectors, such as renewable energy, with harder sectors, such as waste, water or e-mobility, can help investors take exposure to less familiar climate sectors through a diversified platform.

- **Preserve and strengthen grant finance for upstream and enabling interventions**

  The report shows that grants remain a near-universal feature of energy transition projects, even if their contribution is not always visible in short-term private mobilisation ratios. The GCF and other climate-focused development institutions should therefore continue to treat grants as a core strategic tool rather than a secondary instrument. Grant finance is particularly important for feasibility studies, policy and regulatory reform, technical assistance, market development, and project preparation — activities that private actors are often not in a position to finance but that are essential for making later private investment possible. This may be especially important in least developed countries, where local institutions, regulatory capacity, and policy frameworks are often weak, incomplete, or insufficiently enforced. In practice, this means protecting grant resources for upstream interventions and using them more systematically to build the policy, institutional, and technical foundations required for a stronger pipeline of bankable energy transition investments.

- **Increase the share of the PSF portfolio that is clearly and substantially dedicated to the energy transition**

  The report finds that only a minority of PSF projects (20 in total) are fully dedicated to the energy transition, while many others include energy-related activities only as one component within broader multi-sector structures. If the objective is to mobilise private finance specifically

for the energy transition, the GCF should allocate a larger share of PSF resources to projects with a clear and substantial focus on renewable energy generation, storage, grid integration, clean energy access, and related enabling infrastructure. At the same time, this does not mean that GCF should simply finance more conventional renewable-energy projects. The interviews suggest that GCF is increasingly selective within the energy transition value chain and is moving away from utility-scale renewables that are already bankable. The priority for all climate finance institutions should therefore be to expand support for energy-transition segments and markets where additionality is clearer, including distributed generation, off-grid solar, storage and less mature geographies where private capital remains limited.

- **Reform accreditation and approval processes to make them more compatible with private investment timelines**

  The report concludes that the GCF's internal processes often remain too slow, complex, and unpredictable for many private actors. Lengthy accreditation, centralised approval, multiple review rounds, and high transaction costs reduce the attractiveness of the GCF for commercial partners. The Fund should therefore streamline approval and accreditation pathways for private-sector transactions, especially for direct access entities and specialised intermediaries. This should include shorter and more predictable review timelines, lighter procedures for repeat structures and smaller transactions, and clearer decision points during project development. By reforming their processes, GCF and similar institutions could significantly enhance the effectiveness of their financial instruments and improve their ability to mobilise private finance at scale in line with private sector timelines and decision-making practices.

- **Broaden the pool of private sector partners**

  Private finance mobilisation within the PSF is concentrated among a relatively small number of accredited private entities, most of them financial institutions, while private capital is often intermediated through banks rather than mobilised directly from a broader range of commercial actors. The GCF should therefore place greater emphasis on expanding the diversity of private partners involved in PSF operations. This should include greater outreach to infrastructure developers, specialised clean energy platforms, private fund managers, local financial institutions, and institutional investors. Broadening the actor base would reduce dependence on a small number of repeat partners and improve the prospects for replication, scale, and market development across a wider range of countries and sectors.

- **Last but not least, improve the transparency and consistency of reporting on private finance mobilisation.**

  The report demonstrates a significant gap between high-level lump-sum co-financing figures and the amount of private finance that can be clearly verified and credibly attributed to the energy transition. The GCF should therefore improve its reporting framework so that expected, associated, committed, and disbursed private finance are presented separately and consistently. In addition, reporting should more clearly distinguish between public and private co-financiers and identify the share of mobilised funds that can be specifically attributed to energy transition activities. Greater transparency would not in itself increase mobilisation, but it is essential for understanding which instruments and structures are genuinely effective, for improving accountability, and for ensuring that future strategy is based on verifiable catalytic outcomes rather than on broad portfolio-level headline figures.

  Reporting should also make clearer who actually mobilised the private finance. In some projects, such as FP047 Kazakhstan, GCF's role was catalytic, but the accredited entity (in that case, the EBRD) was also responsible for raising or coordinating some of the wider financing package. Distinguishing between finance mobilised directly by GCF, finance mobilised by accredited entities, and finance associated with the broader project would make mobilisation claims more precise and more useful for learning by other institutions.

## Reference


1 Green Climate Fund (n.d.), "*GCF.10: 10 years of climate impact*", online: https://www.greenclimate.fund/gcf10, viewed in December 2025.

2 Green Climate Fund (n.d.), "Private sector financing", online: https://www.greenclimate.fund/sectors/private, viewed in December 2025.

3 Green Climate Fund (2019, October), *Green Climate Fund's Private Sector Facility*, Songdo (Incheon), Republic of Korea: Green Climate Fund, online: https://www.greenclimate.fund/sites/default/files/document/green-climate-fund-s-private-sector-facility_0.pdf, viewed in January 2026.

4 Green Climate Fund (2019, October), *Green Climate Fund's Private Sector Facility*, Songdo (Incheon), Republic of Korea: Green Climate Fund, online: https://www.greenclimate.fund/sites/default/files/document/green-climate-fund-s-private-sector-facility_0.pdf, viewed in January 2026.

5 Green Climate Fund (n.d.), "Private sector financing", online: https://www.greenclimate.fund/sectors/private, viewed in May 2026.

6 Green Climate Fund (n.d.), "Private sector financing", online: https://www.greenclimate.fund/sectors/private, viewed in May 2026.

7 Green Climate Fund (n.d.), "Private sector financing", online: https://www.greenclimate.fund/sectors/private, viewed in May 2026.

8 Green Climate Fund (n.d.), "Private sector financing", online: https://www.greenclimate.fund/sectors/private, viewed in May 2026.

9 Green Climate Fund (2022, May), *Private Sector Strategy*, Songdo, Incheon, Republic of Korea: Green Climate Fund.

10 Green Climate Fund (2022, May), *Private Sector Strategy*, Songdo, Incheon City, Republic of Korea: Green Climate Fund, pp. 1–4, online: https://www.greenclimate.fund/sites/default/files/document/private-sector-strategy.pdf, viewed in January 2026

11 Green Climate Fund (2022, May), *Private Sector Strategy*, Songdo, Incheon, Republic of Korea: Green Climate Fund.

12 Green Climate Fund (2022, June), "Annex V: Private Sector Strategy", in *Decisions of the Board – Thirty-second meeting of the Board, 16–19 May 2022 (GCF/B.32/15)*, Songdo (Incheon), Republic of Korea: Green Climate Fund, pp. 84–85.

13 Green Climate Fund (n.d.), "Readiness & preparatory support", Green Climate Fund, online: https://www.greenclimate.fund/readiness, viewed in May 2026.

14 Green Climate Fund (n.d.), "Readiness & preparatory support", Green Climate Fund, online: https://www.greenclimate.fund/readiness, viewed in May 2026.

15 Green Climate Fund (n.d.), "Financial products", online: https://www.greenclimate.fund/funding/products, viewed in January 2026.

16 World Bank (n.d.), "Blended Finance", online: https://ppp.worldbank.org/blended-finance, viewed in January 2026.

17 World Bank (n.d.), "Blended Finance", online: https://ppp.worldbank.org/blended-finance, viewed in January 2026.

18 World Bank (n.d.), "Blended Finance", online: https://ppp.worldbank.org/blended-finance, viewed in January 2026.

19 World Bank (n.d.), "Blended Finance", online: https://ppp.worldbank.org/blended-finance, viewed in January 2026.

20 Green Climate Fund (2023), "FP205: Infrastructure Climate Resilient Fund (ICRF)", Green Climate Fund, online: https://www.greenclimate.fund/project/fp205, viewed in May 2026.

21 Green Climate Fund (n.d.), "FP152: Global Subnational Climate Fund (SnCF Global) – Equity", online: https://www.greenclimate.fund/project/fp152, viewed in January 2026

22 World Bank (n.d.), "Blended Finance", online: https://ppp.worldbank.org/blended-finance, viewed in January 2026.

23 Green Climate Fund (2024), *Annex IX: Risk Appetite Statement*, GCF/B.40/23, Incheon, Republic of Korea: Green Climate Fund.

24 Green Climate Fund (2019), *Annex XXVIII: Policy on Co-financing*, GCF/B.24/17, Incheon, Republic of Korea: Green Climate Fund, p. 283.

25 Green Climate Fund (2023), *Second Performance Review of the Green Climate Fund – Annexes, Volume II: Technical Annexes*, Songdo, Incheon, Republic of Korea: Green Climate Fund, pp. 9–12.

26 Green Climate Fund (2023), *Second Performance Review of the Green Climate Fund – Annexes, Volume II: Technical Annexes*, Songdo, Incheon, Republic of Korea: Green Climate Fund, pp. 9–12.

27 Green Climate Fund (2026, March 27), Interview on the PSF strategy and reporting.

28 Green Climate Fund (2026, March 27), Interview on the PSF strategy and reporting.

29 Green Climate Fund (2026, March), *A Decade of Global Climate Action: Building Resilience, Transforming Lives*, Incheon, Republic of Korea: Green Climate Fund, p. 12.

30 Heinrich Böll Stiftung Washington, DC (n.d.), "Green Climate Fund: Private Sector Finance in Focus", online: https://us.boell.org/en/green-climate-fund-private-sector-finance-focus, viewed in December 2025.

31 Reyes, O. and L. Schalatek (2021), *Private Sector Finance in Focus. Briefing 1: A Critical Review of Key Trends: Green Climate Fund*, Washington, DC, United States: Heinrich-Böll-Stiftung, p. 4.

32 OECD (2025), *Guarantees and other risk mitigation instruments for clean energy: Harnessing blended finance to scale investments in emerging markets and developing economies* (OECD Environment Working Papers No. 266), Paris, France: OECD

33 Lawder, D. (2024, February 28), "World Bank to streamline loan, investment guarantees with $20 bln annual goal", Reuters, online: https://www.reuters.com/business/finance/world-bank-streamline-loan-investment-guarantees-with-20-bln-annual-goal-2024-02-28/, viewed in May 2026.

34 Green Climate Fund (2022, April), "GCF/B.32/06: Review of the initial private sector facility modalities and the private sector strategy", online: https://www.greenclimate.fund/document/gcf-b32-06, viewed in January 2026

35 Green Climate Fund (2022, April), "GCF/B.32/06: Review of the initial private sector facility modalities and the private sector strategy", online: https://www.greenclimate.fund/document/gcf-b32-06, viewed in January 2026.

36 Green Climate Fund (2022, April), "GCF/B.32/06: Review of the initial private sector facility modalities and the private sector strategy", online: https://www.greenclimate.fund/document/gcf-b32-06, viewed in March 2026.

37 Green Climate Fund (2022), *Annex V: Private Sector Strategy*, GCF/B.32/15, Incheon, Republic of Korea: Green Climate Fund, p. 78.

38 Green Climate Fund (2022, April), "GCF/B.32/06: Review of the initial private sector facility modalities and the private sector strategy", online: https://www.greenclimate.fund/document/gcf-b32-06, viewed in January 2026.

39 World Bank (2023, April 20), "Scaling Up to Phase Down: Financing Energy Transition in Developing Countries", online: https://www.worldbank.org/en/news/press-release/2023/04/20/scaling-up-to-phase-down-financing-energy-transition-in-developing-countries, viewed in June 2026.

40 Green Climate Fund (2022, April), "GCF/B.32/06: Review of the initial private sector facility modalities and the private sector strategy", online: https://www.greenclimate.fund/document/gcf-b32-06, viewed in January 2026.

41 Green Climate Fund (2022, April), "GCF/B.32/06: Review of the initial private sector facility modalities and the private sector strategy", online: https://www.greenclimate.fund/document/gcf-b32-06, viewed in January 2026.

42 Green Climate Fund (2026, March 27), Interview on the PSF strategy and reporting.

43 Green Climate Fund (2026, March 27), Interview on the PSF strategy and reporting.

44 Kalinowski, T. (2024), "The Green Climate Fund and private sector climate finance in the Global South", *Climate Policy*, 24(3): 281–296.

45 Kalinowski, T. (2024), "The Green Climate Fund and private sector climate finance in the Global South", *Climate Policy*, 24(3): 281–296.

46 Heijman, M. W., Head of Climate Resilience Infrastructure (CRI) – Private Sector, Green Climate Fund (2026, April 13), Interview on the FP047 project.

47 O'Dwyer, C. (2023, June 7), "The Green Climate Fund Lacks Procedural Justice", *Seven Pillars Institute*, online: https://www.7pillarsinstitute.org/green-climate-fund-lacks-procedural-justice/, viewed in March 2026.

48 Independent Evaluation Unit (2025, September), *Independent Evaluation of the Green Climate Fund's Simplified Approval Process: Executive summary*, Songdo, South Korea: Independent Evaluation Unit, Green Climate Fund, p. 5.

49 Green Climate Fund (2026, March 27), Interview on the PSF strategy and reporting.

50 Green Climate Fund (2017), *FP047: GCF-EBRD Kazakhstan Renewables Framework*, Incheon, Republic of Korea: Green Climate Fund, p. 9.

51 Green Climate Fund (2021, April), *Funding Proposal FP164: Green Growth Equity Fund*, Songdo (Incheon), Republic of Korea: Green Climate Fund, pp. 15–17.

52 Namkoong, M., CFA, FRM, Climate Investment Associate Principal (Private Sector), Division of Asia and the Pacific region (DAPAC), Green Climate Fund (2024, April 16), Interview on the GGEF Project.

53 Green Climate Fund (2021, April 6), *Funding Proposal FP164: Green Growth Equity Fund*, pp. 3, 52-53.

54 Green Climate Fund (2023, March 24), *Annual Performance Report CY2022: Green Growth Equity Fund (FP164)*, p. 6.

55 Green Climate Fund (2023, March 24), *Annual Performance Report CY2022: Green Growth Equity Fund (FP164)*, p. 6.

56 Green Climate Fund (2023, March 24), *Annual Performance Report CY2022: Green Growth Equity Fund (FP164)*, p. 6.

57 Green Climate Fund (2024, March 14), *Annual Performance Report CY2023: Green Growth Equity Fund (FP164)*, p. 10.

58 Green Climate Fund (2023, March 24), *Annual Performance Report CY2022: Green Growth Equity Fund (FP164)*, p. 16.

59 VC Circle (2025, February 12), "NIIF, BII, Eversource to exit Ayana Renewable in $2.3-bn deal"

60 VC Circle (2025, February 12), "NIIF, BII, Eversource to exit Ayana Renewable in $2.3-bn deal"

61 Business Standard (2025, July 23), "ICRA downgrades NIIF backed Radiance Renewables' long term rating"

62 Green Climate Fund (2023, March 24), Annual Performance Report CY2022: Green Growth Equity Fund (FP164), pp. 14–15.

63 Green Climate Fund (2024, March 14), Annual Performance Report CY2023: Green Growth Equity Fund (FP164), pp. 14–15.

64 Green Climate Fund (2024, March 14), *Annual Performance Report CY2023: Green Growth Equity Fund (FP164)*, pp. 13, 18.

65 Green Climate Fund (2023), *FP164: Green Growth Equity Fund: Disclosable Annual Performance Report CY2022*, Incheon, Republic of Korea: Green Climate Fund, p. 20.

66 Green Climate Fund (2023), *FP164: Green Growth Equity Fund: Disclosable Annual Performance Report CY2022*, Incheon, Republic of Korea: Green Climate Fund, pp. 3–7.

67 Green Climate Fund (2024, April 16), Interview on the GGEF Project.

68 Green Climate Fund (2024, April 16), Interview on the GGEF Project.

69 Vasudha Foundation (2025), *India's Energy Overview: Yearly Highlights of 2024–25*, New Delhi, India: Vasudha Foundation, pp. 4–5.

70 International Energy Agency (IEA) (2023), "Kazakhstan: Energy mix", online: https://www.iea.org/countries/kazakhstan/energy-mix, viewed in May 2026.

71 Green Climate Fund (2017, November), *GCF-EBRD Kazakhstan Renewables Framework (Funding Proposal FP047)*, Songdo (Incheon), Republic of Korea: Green Climate Fund, p. 2.

72 Green Climate Fund (2017, November), *GCF-EBRD Kazakhstan Renewables Framework (Funding Proposal FP047)*, Songdo (Incheon), Republic of Korea: Green Climate Fund, p. 4.

73 Green Climate Fund (2017, November), *GCF-EBRD Kazakhstan Renewables Framework (Funding Proposal FP047)*, Songdo (Incheon), Republic of Korea: Green Climate Fund, p. 4.

74 Green Climate Fund (2017, November), *GCF-EBRD Kazakhstan Renewables Framework (Funding Proposal FP047)*, Songdo (Incheon), Republic of Korea: Green Climate Fund, p. 4.

75 European Bank for Reconstruction and Development (EBRD) (2024), *Annual Performance Report 2024 (APR): FP047 – GCF-EBRD Kazakhstan Renewables Framework*, London, United Kingdom: European Bank for Reconstruction and Development, p. 3.

76 Green Climate Fund (2026, April 13), Interview on the FP047 project.

77 Green Climate Fund (2026, April 13), Interview on the FP047 project.

78 Green Climate Fund (2026, April 13), Interview on the FP047 project.

79 Green Climate Fund (2017), *FP047: GCF-EBRD Kazakhstan Renewables Framework*, Incheon, Republic of Korea: Green Climate Fund, p. 2.

80 Green Climate Fund (2026, April 13), Interview on the FP047 project.

81 Green Climate Fund (2026, April 13), Interview on the FP047 project.

82 Green Climate Fund (2026, April 13), Interview on the FP047 project.

83 Green Climate Fund (2026, April 13), Interview on the FP047 project.

84 Green Climate Fund (2026, April 13), Interview on the FP047 project.

85 Green Climate Fund (2026, April 13), Interview on the FP047 project.

86 Green Climate Fund (2026, April 13), Interview on the FP047 project.

87 Green Climate Fund (2026, April 13), Interview on the FP047 project.

Profundo

Research & advice

Radarweg 505
1043 NZ Amsterdam
The Netherlands
+31-20-8208320
profundo@profundo.nl
www.profundo.nl