

Can Outcome-Based Financing Catalyze Early Stage Equity Investments in Green Small and Growing Businesses?

Lessons from South Africa

Access to appropriate financing is often cited as one of the biggest challenges to scaling small businesses. This is a particularly critical problem in climate-related sectors, where risks are perceived as higher by many potential investors. In South Africa, the World Bank Group's Climate Technology Program, together with GreenCape, the Bertha Centre at University of Cape Town's Graduate School of Business, and the World Wide Fund for Nature - South Africa (WWF-SA), is testing an innovative, outcome-based funding mechanism — the Green Outcomes Funds (GOF) — to de-risk investments in promising green small and growing businesses.



Introduction

Small and Growing Businesses (SGBs) in emerging markets are constrained by a lack of access to finance, management capacity, and access to markets. These issues are multiplied in the green economy, where new business models and technologies are being pioneered. Despite the pressing need for increased green investment and the business opportunities offered by the green economy, local investors have not been active in the green SGB space. There is little interest in this specific theme from local fund managers, who serve as the intermediaries channeling funds to local SGBs. Rather, local fund managers are dis-incentivized to develop specific green SGB investment strategies, as they often perceive these as riskier on a risk/return basis, requiring additional business development support.

Investors in relatively nascent sectors such as most relating to climate change — e.g., solar power — typically provide business development or Technical Assistance (TA) support alongside their investment. In emerging markets, such support is often funded by donors, including Development Finance Institutions

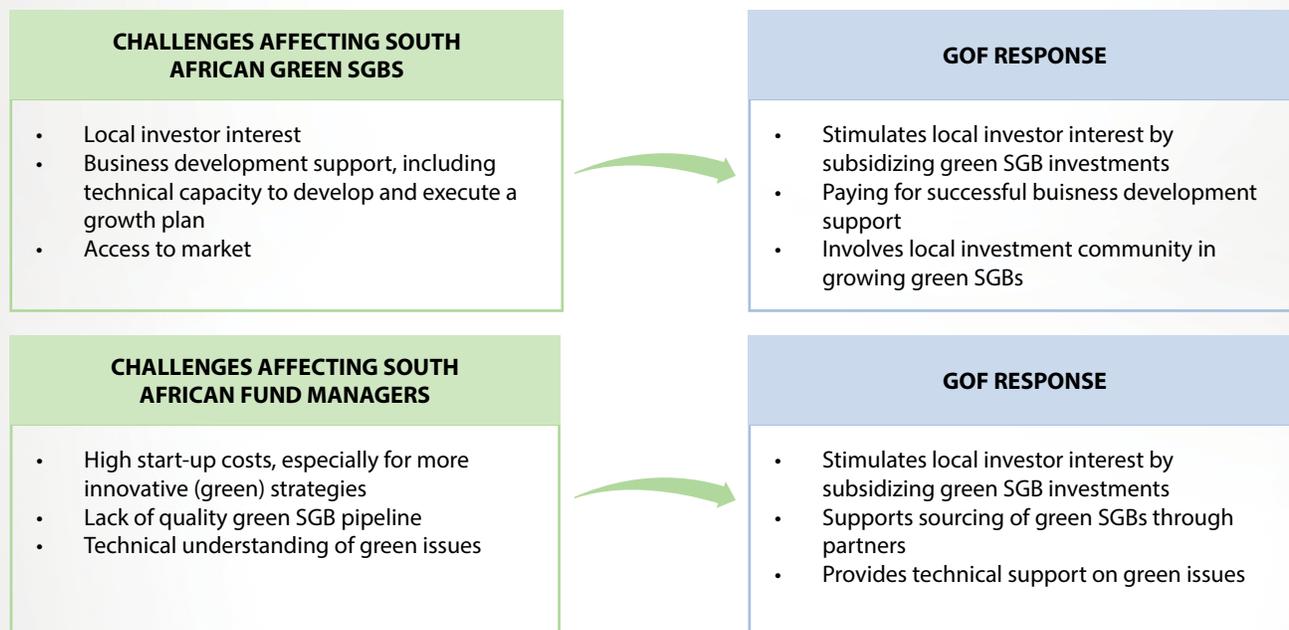
(DFIs). This funding may be tied to a specific investment fund, or administered by a third party, but is not typically outcome-based — i.e. tied to a set of verifiable development outcomes.

This pilot, which pioneers a green outcome-based fund, seeks to address two issues — see **figure 1**:

- Local investors and their intermediaries (i.e. local fund managers) do not currently have sufficient incentives to test new green SGB strategies.
- The usual model of incentivizing local fund managers to develop new products related to green SGB investments may not be efficient or effective, as they require significant funding and are not typically independently verified.

The World Bank Group's Climate Technology Program (CTP), together with its local partners, is pioneering a new outcome-based financing modality in South Africa that will test new ways to incentivize local fund managers (investors) to finance green SGBs. This pilot takes the form a Green Outcomes Fund (GOF) that contributes to global efforts to promote rapid development of the green economy by considering the

Figure 1. Rationale for the GOF



following questions:

- Are local fund managers willing to increase investment in green SGBs if a portion of their costs to originate and invest in these businesses are covered?
- Are local fund managers willing to commit to achieving a pre-agreed set of green outcomes associated with their investments, which can be independently verified?
- Are external funders that are focused on catalyzing transition to the green economy (e.g. donors and foundations) interested in supporting local fund managers to achieve green SGB outcomes, and is such a modality an efficient and effective way to achieve a pre-defined set of outcomes?
- Will these interventions result in greater funding to green SGBs in South Africa during and beyond the life of this pilot? Note that this last question will only be answered after the pilot phase has been completed.

What is Outcomes-Based Funding?

Outcome-based funding models (also referred to as “Pay for Performance” and “Results Based Financing” models) refer to financing mechanisms where a funder makes payments conditional on achievement of pre-agreed outcomes. The full payment is only received if the agreed upon outcomes — i.e. measurable and independently verifiable social or environmental impacts — are achieved. Under this system, private finance is first deployed to achieve the desired outcomes, and only after pre-agreed impacts (outcomes) have been verified, is concessional money made available by the outcome “buyer,” often a foundation, development finance institution or government.

Outcome-based funding mechanisms have received significant attention over the past decade. As public budgets face increasing pressure, there is a growing focus on developing opportunities for public-sector budgets to leverage private capital in support of social and environmental outcomes, including for the Sustainable Development Goals (SDGs). Growth in outcome-based models can be illustrated through “impact bonds,” a category of outcome-based funding. The first Social Impact Bond (SIB) was issued in the United Kingdom in 2010 by Social Finance Ltd. In 2014, over 40 Social Impact

Bonds and Development Impact Bonds (DIBs) were set up in 11 countries (OECD, 2014). Organizations have issued impact bonds in a variety of areas — health, education, etc. — to leverage additional private capital and stimulate long-term market shifts.

Such “payment for success” is also increasingly a component of development assistance through staged and performance-based grant funding. For development funders, outcome-based funding models can increase the efficiency and effectiveness of limited aid budgets: Concessional development funding is conditional on creation of impact, while upfront costs (and risks) are covered by private capital.

The Green Outcomes Fund

The Green Outcomes Fund (GOF) will provide outcome-based, matched (concessional) funding to local Recipient Funds (RFs) to incentivize investments in SGBs that make a demonstrable contribution to South Africa’s green economy, as well as job and enterprise creation, in priority impact areas.

The GOF will initially be a not-for-profit fund that will provide pure or reimbursable grants to local RFs in exchange for performance, namely the achievement of pre-agreed green outcomes. The GOF will provide relatively modest amounts, primarily to help cover RFs’ additional costs associated with originating and investing in green SGBs. GOF funding will be matched by RFs in the form of investment and business development. The leverage ratio of match funding will be tailored to each RF.

The GOF pilot will test if and how RFs can be incentivized to increase investment in green SGBs and improve impact measurement and reporting. It will also generate insights for the development finance community. A further iteration of this approach could result in an outcome-based auction model, where a bidding process can, over time, reduce the costs of generating impact. Once delivery of a set of pre-agreed impacts by RFs has been tested, the GOF developers can determine the most popular impact outcomes proposed by RFs and compare these to funder interests. This could result in changing of the incentive structure to encourage RFs to focus their efforts on more difficult impact sectors, or in response to specific funder interests.

Green Outcomes Fund pilot partners

The Climate Technology Program (CTP) works in developing and emerging countries to support green SGBs with innovative structures to address their barriers to scale and growth. In addition to supporting green SGBs at the company level — e.g. through a network of Climate Innovation Centre's (CICs) — CTP also seeks to enable increased investment in SGBs. This approach includes design and testing of new funding modalities, such as the GOF.

The GOF will be piloted with the following local partners:

The Bertha Centre for Social Innovation and Entrepreneurship at University of Cape Town's Graduate School of Business ("UCT GSB's Bertha Centre"): an academic institution with technical expertise in innovative finance. The UCT GSB's Bertha Centre first proposed an outcome based pilot in South Africa, and have relevant experience in designing impact bonds. The UCT GSB's Bertha Centre is responsible for facilitating design, including local structuring, and engaging local RFs and supports fundraising.

GreenCape: a government-sponsored South African agency established to promote green development in the Western Cape region. GreenCape has several technical "desks" dedicated to green economy sectors, and has significant experience in working with the local private sector. GreenCape will provide technical expertise, e.g. on green metrics, and supports outreach to green SGBs.

The World Wide Fund for Nature - South Africa (WWF-SA): the national office of a leading international environmental organization. WWF-SA will contribute to GOF in the areas of green finance solution design, green metrics and also potential fundraising.

Proposed Green Outcomes and Metrics

Central to the GOF is the achievement of green outcomes, manifested in a set of verifiable metrics. The GOF partners developed a set of green metrics that can be selected as potential payment triggers. Key considerations for choosing these metrics were that:

- They are in green sectors relevant to South Africa's economy and SGBs.
- They can be monitored and audited relatively easily,

in particular as part of normal business operations, e.g. through utility bills.

- They can generate impact relatively quickly, e.g. show annual improvements.

An initial set of metrics was developed, based on international and local best practice (e.g. using IRIS¹ metrics). These were tested and refined with local fund managers to ensure practicality. The GOF partners are further refining the explanation of these green metrics, including asking the following questions and collecting a set of robust reference sources and impact calculators to ensure ease of use:

- What to measure?
- How to measure?
- Who measures?
- Cost to measure?
- Timeline and frequency of measurement?
- Verification of measurement?

Recognized sectors where metrics can be applied include: green buildings and the built environment; sustainable transport and infrastructure; green energy and energy efficiency; resource conservation and management; sustainable waste management; sustainable agriculture; food production and forestry; water management; sustainable production and consumption; and environmental sustainability.

A summary of the green metrics is illustrated in [figure 2](#).

Green Outcomes Fund Structure

The GOF has been structured to:

- Incentivize local fund managers (Recipient Funds) to increase green SGBs investments, by providing outcomes-based funding that is calibrated to cover any additional costs for investment in green SGBs, such as business development and technical assistance.
- Encourage the uptake of verifiable green metrics across the local investing industry.
- Develop capacity among investors in RFs to assess green credentials, e.g. local pension funds.
- Support price discovery on delivery of green outcomes by RFs and outcomes funders.

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1. Impact Reporting & Investment Standards

Figure 2. Summary Table of the Green Metrics

Sector	Category	Metrics
All	Mitigation / Diversion	CO2-equivalent emissions mitigated or saved
All	Job creation	Green sector direct and indirect jobs created*
Energy	Access to green energy	Persons reached by reliable green energy grid/source that were with and without prior access to the traditional energy grid
Energy	Generation	Green energy generated
Energy	Mitigation / Diversion	Energy efficiency – energy saved based on deemed savings values
Waste	Mitigation / Diversion	Waste to landfill avoided, avoided waste incinerated, waste recycled / re-used, chemical recovery
Water	Mitigation / Diversion	Water use reduction, wastewater treated, water productivity
Water	Generation	Water sourced from an alternative sustainable resource

* South Africa is, at present, experiencing the highest levels of unemployment in 14 years, at just over 26%, according to a recent press release by Statistics South Africa. The South African government, in order to counter the high unemployment is placing great focus on job creation, within the SME space especially, through initiatives such as the Jobs Fund. This metric is thus commonly used in South Africa, and reflects a government priority. The green jobs metric also speaks to one of the GOFs overall goals of growing the green economy as a whole, which encompasses the economic growth associated to job creation within this sector.

The initial types of Recipient Funds under consideration for the GOF are described in **figure 3**. The initial list of potential RFs was developed in collaboration with the UCT GSB’s Bertha Centre, which carried out initial due diligence, to represent a diversified profile of funds in South Africa with interest in and/or various experience with investments in the green SGBs. It is likely that a maximum of three will be selected for the next phase, subject to budget and the timing of the local RFs investment cycle.

The general overview of the GOF structure is illustrated in **figure 4**.

The Green Outcomes Fund will be incorporated as a South African Legal Trust and governed by a board of trustees, partly appointed by the implementing partners, WWF-SA, GreenCape, the World Bank Group, and the UCT GSB’s Bertha Centre. The board of trustees will oversee and approve all of the processes and decisions made by the fund manager in their execution of the fund mandate. This includes fund

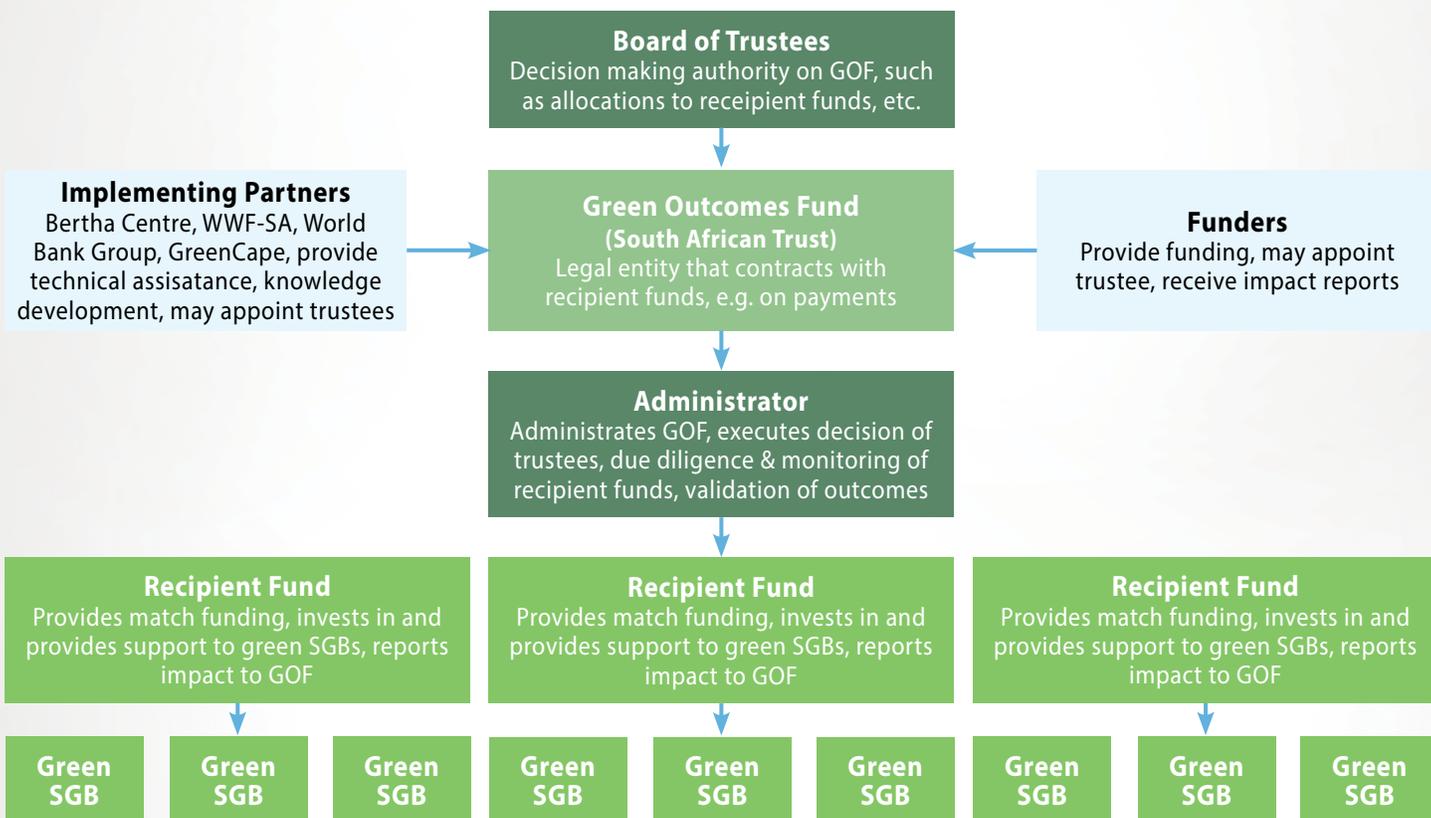
allocation, monitoring and reporting, as well as disbursement of funds.

To ensure transparency, the GOF funds will be kept in an escrow account. Outcome payments will be approved for disbursement only once the fund manager has provided documented verification of the outcomes achieved by a specific recipient fund in line with initial signed agreements. The funds can be re-allocated on a ‘use-it or lose-it’ principle, which is evaluated by the fund manager on an on-going basis and approved by the board of trustees. In other words, should a recipient fund not achieve its milestones in terms of green outcomes, the fund manager may recommend the re-allocation of these funds to another recipient fund. In the event that there are excess unallocated funds left within the escrow account, funds will be distributed back to the initial GOF funders, pro-rata to their initial contribution to the fund.

Figure 3. Initial Types of Recipient Funds under Consideration for Green Outcomes Fund

Fund A	A new impact investing fund for post-revenue high-impact social enterprises
Fund B	A new impact investing fund investing in high-growth, early stage ventures in the green economy, education and healthcare
Fund C	An enterprise and supplier development fund investing in SGBs and supporting their integration into corporate supply chains.
Fund D	An established GIIRS-rated impact investing fund
Fund E	A green SGB fund managed by an international SME focused risk-financier with an over 30 years track record in Africa
Fund F	An investment fund with a 10-year track record of investing in clean energy and resource efficiency through infrastructure and growth equity investments in Sub-Saharan Africa

Figure 4. Green Outcomes Fund Structure



What Makes this Different?

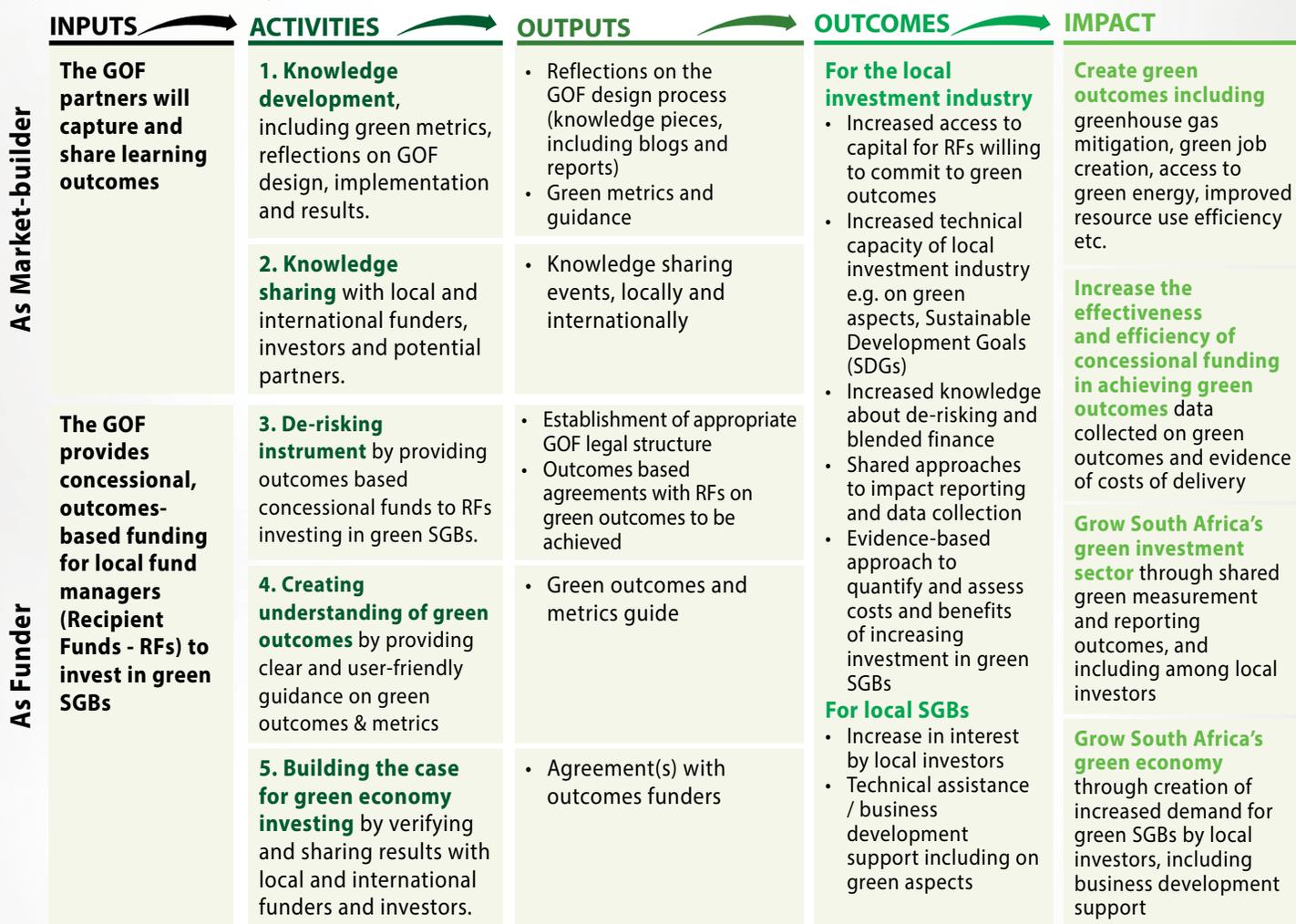
The GOF is based on the following theory of change (figure 5). This also creates the basis on which to build further innovation over time, and tests the concept in a relatively lean approach.

The GOF proposes innovation at three levels:

1. SGB level: The GOF supports the provision of flexible concessional capital to implement new de-risking strategies to unlock investment in green SGBs through

local investors (RFs). The funding provided to the RFs can be used for any purpose, as most fitting the particular need of the investment. The blended (i.e. mixing of concessional, or below market returns, with commercial return expectations) approach should encourage the RF to increase its funding to green SGBs and facilitate technical yet business-oriented support to green SGBs. The pilot will make conditional, flexible financing available explicitly for green SGB investments.

Figure 5. The Theory of Change Associated with Green Outcomes Fund



2. Recipient Fund level: The GOF funds the development of a nascent local impact investing industry through the provision of additional concessional capital tied to green outcomes. This may support existing funds to develop new product or venture into new investment areas, as well as first time funds, which often struggle to raise funding. Providing additional concessional funding may enable these funds to preferentially attract additional investment capital. Further, incentivizing adoption of a common set of technically sound, verifiable green metrics across multiple local fund managers in the local ecosystem may help to strengthen the local green and impact investing industry.
3. GOF funder: The structure is globally innovative since it helps mitigate performance risk: It presents a new model, where support to fund managers is conditional on the successful delivery of pre-agreed impacts among their investees. The GOF also introduces a level of competition for delivery of green outcomes between recipient fund managers, and thus price discovery around delivery of these impact outcomes. Concessional support by the GOF to RFs for delivery of green outcomes is tied to measurable performance on pre-agreed green metrics.

Design Process and Considerations

The GOF was developed through discussions with local SGBs and fund managers. The fund managers indicated an interest in allocating more investment to green SGBs, but stated that these investments would need additional resources to source and prepare. In addition, there is little consistency across the local fund management industry with respect to what green SGBs are, as well as on common non-financial (impact) reporting metrics. The lack of a shared view on green SGBs in South Africa undermines its development as a common investment theme, and thus its ability to attract significant volumes of capital. Further discussions revealed that fund managers were willing to commit to an outcome-based cost-share with an outcome-based funder, particularly if they were engaged in the design and development of realistic payment triggers and expectation.

In the basic model, recipient funds finance their own investments until green outcomes are proven. Outcomes will be assessed in relation to an outcome-based contract signed

between the GOF and each Recipient Fund. The GOF manager monitors the achievement of these results and the fulfilment of the contracts. The GOF pays for results, which may include reimbursement of TA and business development services for green SGBs by the Recipient Fund, as pre-agreed. In certain cases, the Recipient Fund may receive a small, partial grant to frontload their support to green SGBs. However, this may be clawed back if certain milestones are not achieved. The balance of the outcome payment in this model is that disbursement is contingent on delivery of the green outcome by a Recipient Fund. Other variations on this model may also be considered (see **figure 6**). Note that in the pilot stage, the preference is for the first two variations.

Recipient Funds in turn will disburse funding to green SGBs according to their own delivery model and disbursement policy. The benefits of this model to an outcome-based funder are:

- Relatively low cost: Funding is to cover additional costs of making green SGB investments rather than for the entire investment, for example to support TA and business development support.
- Cost efficiency: Funds are only paid-out once pre-agreed targets have been met.
- Price discovery: Over time, price discovery can be built for outcomes, which can be further refined into a bidding / auction platform for green outcomes (impact).
- Encouragement of investment: Signaling to local fund managers, encouraging investment in the green sector. That may stimulate entrance of new local fund managers, who may use the outcome-based subsidy as a way to attract additional capital from other impact-focused funders.

Learnings and Next Steps

In this first phase, the consortium has started to explore some of the main questions that inform this innovative finance instrument:

- Are local fund managers willing to increase investment in green SGBs if a portion of their costs to originate and invest in these businesses are covered?
- Are local fund managers willing to commit to achieving a pre-agreed set of green outcomes associated with their investments, which can be independently verified?

Figure 6. Green Outcomes Fund Modality Review

Predominantly medium funds	Predominantly smaller funds	Predominantly larger funds
<p><u>1. Outcomes-based Payments</u></p> <ul style="list-style-type: none"> • RFs invest own funds into investee companies • Investee companies achieve outcomes and RF reports • GOF verifies outcomes • GOF disburses grant capital 	<p><u>2. Upfront Grant Capital</u></p> <ul style="list-style-type: none"> • GOF disburses portion of total grant upfront • RF invests into investee companies • Investee companies achieve outcomes and RF reports • GOF verifies outcomes and disburse a further portion of grant capital 	<p><u>3. Soft loans/returnable grants</u></p> <ul style="list-style-type: none"> • GOF disburses loan to RF • Loan is given at very soft rate • RF invests in investee companies • Investee companies achieve outcomes and RF reports • GOF manager verifies outcomes • If outcomes are achieved, loan remains at very soft rate • If outcomes are not achieved, loan interest rate hiked

- Are external funders that are focused on catalyzing transition to the green economy (e.g. donors and foundations) interested in supporting local fund managers to achieve green SGB outcomes, and is such a modality an efficient and effective way to achieve a pre-defined set of outcomes?
- Will these interventions result in greater funding to green SGBs in South Africa during and beyond the life of this pilot?

Early lessons have emerged from the design process. In this phase, the UCT GSB's Bertha Centre contributed as a local 'honest broker' that could test design options with local fund managers. GreenCape contributed with an existing network of green SGBs and technical expertise. The World Bank Group and WWF contributed with technical expertise and design support. The following aspects have emerged as important elements in the design of the product and green metrics:

- The developers (UCT GSB's Bertha Centre, GreenCape, World Bank Group) must be perceived as credible in the local industry, but cannot be seen to compete with local fund managers to ensure open sharing of information.
- There should be early contact to outcome-based funders and a sense of the impacts they would view as important

(e.g. climate impacts). It may be challenging to balance different funder impact interests, e.g. between green and socio-economic outcomes. Hence, in this phase, it was decided that all outcomes have equal value; this may change in the future. In this first pilot phase the GOF will likely be used in support of any of the green outcomes listed, but this may eventually evolve into different prices for different outcomes based on their prioritization. The "price" of each outcome will then be determined by interests of funders in a particular outcome, and the ease with which RFs can deliver that impact. Initially, outcome pricing will be based on a transparent negotiation between the GOF and selected RFs.

- Cross-sector technical expertise helps develop pragmatic yet verifiable metrics and is necessary to effectively communicate them.
- Local service providers are needed to provide additional technical expertise, e.g. legal advice.
- There is a need to balance verification and reporting requirements (and costs) with potential rewards (i.e. access to outcomes based funding) – and with additionality. The GOF is providing an additional source of funding to RFs, which is intended to generate more green SGB investments

than under business as usual. However, this funding is a relatively modest payment intended to alleviate a portion of the additional costs associated originating and preparing this type of deal. As such, requiring very resource-intensive monitoring metrics may not match the financial benefit provided by the GOF, and reporting requirements must be carefully calibrated to identify the appropriate incentive balance for the model to be effective.

- Green outcomes must be timely and verifiable, i.e. be independently auditable (at relatively low cost and difficulty), and the time to impact must be aligned with GOF's timing.

As the project enters the next phase, six RF have indicated their interest in participating in this pilot phase. In the pilot, a minimum of two RF will be chosen (and more depending on the available budget). In a future iteration, the process will be a fully open and competitive window, allowing for greater competition among RFs.

It is certain that there will be further iteration over time to find the optimum balance; in the meantime the process and learning will be documented.

What Next?

The consortium is now seeking a small initial amount (\$1-2m) to pilot the GOF. This will be used to test the GOF approach with potential outcome-based funders. Priority outcome-based funders for the pilot include donors and foundations, e.g. grant making foundations with a mission to catalyze impact investing. Securing this initial amount will test the appetite of outside funders in this approach.

Following fundraising, the next phase will further test the interest of local RFs. For the pilot, this means:

- Within one month of receiving funding: Tangible interest of the RFs to negotiate for TA reimbursement / grant funding in exchange for delivering pre-agreed impacts will be ascertained.
- Within six months of receiving funding: Impact reporting modalities from participating RFs to the GOF will be tested.
- Within 12 months of receiving funding: Initial success of a GOF model for delivering green outcomes will be tested. This is a first check of progress. Based on funder interest (and budget), the GOF will continue to test success in the

following years, both for this initial cycle of RFs and for new ones.

- A successful pilot stage, where verifiable green outcomes can be delivered cost-effectively, will justify fundraising for a larger GOF volume. This is likely to have additional innovations:
- An open-bidding window: Any RF can apply, creating competition in delivery of impacts.
- Ring-fencing of outcomes: Funders interested in a specific green outcome can ring-fence funding within the GOF or can "co-invest" in that outcome.
- Expansion to new regions (e.g. Southern Africa) and sectors.

In summary, the GOF introduces innovation in traditional funding approaches. It creates opportunities for cost efficiency and delivery of verifiable impacts. The GOF has the potential to develop into an outcome-based price discovery system, driven by cost of delivering a specific green outcome and preferences of relevant funders. This pilot has the potential to have a significant impact across a broad variety of impact sectors and geographies on how outcomes are supported, including by donors, governments, and philanthropists.

Annex

Across sub-Saharan Africa and, more generally, global emerging markets, there is a pressing need to stimulate job creation and transition to green economies. SMEs (small and medium enterprises) are a critical piece in this puzzle, as they serve as a major driver of job creation. Consequently, investment in SMEs is critical yet there is still a significant funding gap. For example, a recent survey of South African Small and Medium Enterprises (SMEs) shows that 22% of SME respondents list access to markets as their top challenge, followed by access to funding (21%). Most SMEs with revenues below R3m recognize funding as their biggest challenge, whereas companies with revenues above R3m see access to market as their principal challenge. These companies are 1 to 10 years old, with 66% of them having bootstrapped or been funded by friends and family. Only 7% of the enterprises surveyed had successfully raised funding from angel investors and venture capital funds.² This indicates access to funding as a principal challenge to growth. Although not the top inhibitor for SMEs with revenues above R3m, this remains one of the top three inhibitors for their growth. Associated with this issue, there is the lack of availability of targeted local business development support – businesses that receive pre-investment support demonstrate significantly higher revenue growth rates.³

This pressing need is heightened by global and local environmental degradation trends and by important international and local policy trends, e.g. the Task Force on Climate-related Financial Disclosures (TCFD). The world urgently needs to move towards models where economic growth is decoupled from natural resource use and climate mitigation pathways. In South Africa, this means investment in businesses that can generate verifiable green outcomes, including in energy, water, waste, infrastructure and land management. Governments, development partners and Non-Governmental Organizations (NGOs) are increasingly testing new, more efficient, and effective methods for incentivizing green outcomes and that can leverage limited public budgets.

Useful pre-and post-investment support by local investors necessitates adequate technical expertise and motivation among inter alia local fund managers, who play an important potential role in green economic development. This in turn requires dedicated resources. Traditionally, Development Finance Institutions (DFIs) have supported Technical Assistance (TA) windows to investment funds. However, this has certain limitations. At the same time, outcomes-based funders have not had the opportunity to test

2. Emerging companies and the ecosystem, PwC 2015

3. Based on historical data from programs run by recipient funds of the Jobs Fund grant

models that purchase green outcomes through fund structures, preferring direct payments (e.g. carbon credits, offsets, other direct contractual methods such as impact bonds).

Prior to the Paris climate meeting in 2016, South Africa summarized its green investment need in the form of its Intended Nationally Determined Contribution (INDC). This complemented existing key environmental policies, including the National Development Plan, which lays out a '2030 vision'. South Africa has made progress in energy (integrated energy and electricity plans – IEP and IRP) and industrial policy action plans (IPAP). South Africa is also developing a National Climate Change Adaptation Strategy and Plan, upon which its National Adaptation Plan (NAP) will be based. Within the INDC, South Africa commits inter alia to integrating climate considerations in its development policies, to build the necessary institutional framework for these, including to peak emissions by the year 2020 through action in three major categories: energy, industrial processes, waste as well as Agriculture, Forestry and Other Land Use (AFOLU).⁴

South Africa is a major emerging market economy on the African continent, with a relatively mature financial sector comprised of many banks, non-bank financial institutions, development finance institutions (DFIs) (including local DFIs), as well as a robust stock exchange. The country benefits from a strong and well-developed financial supervisory framework and hosts many fund managers who have a strong footprint across the continent. Until relatively recently, however, the venture capital and early stage investing were nascent. The past two years have seen significant growth, with 31 managers, up from 22 in 2012.⁵

However, despite the maturity of South Africa's financial services market, local businesses – and particularly SGBs – often cite access to finance as their primary concern. This is arguably an even greater challenge for Small and Growing Businesses (SGBs). SGBs are a subcategory of SMEs focused on rapid growth and development. In South Africa SGBs are defined as those that:

- Are growth orientated – able to achieve 20% employment growth within 3 years;
- Employ 5 to 250 people;
- Require R200 000 - R20 million in investment capita;
- Are resource constrained.

4. <http://www4.unfccc.int/ndcregistry/PublishedDocuments/South%20Africa%20First/South%20Africa.pdf>

5. <http://ventureburn.com/2015/10/survey-south-africas-venture-capital-industry-is-now-worth-a-massive-r2bn/>

Climate Technology Program

In Brief

About Us

The Climate Technology Program (CTP) In Brief series is a publication of the World Bank Group's Trade and Competitiveness (T&C) Global Practice and infoDev. infoDev's CTP is managed by the Innovation and Entrepreneurship Unit of T&C.

CTP focuses on the growing opportunities of the clean technology sector in developing countries. Through a global network of seven Climate Innovation Centers, the program provides local entrepreneurs with the knowledge and resources they need to launch and scale their innovative business solutions to climate change. CTP In Brief is a series of knowledge briefs highlighting important aspects of the CTP global and in-country operations and research.

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