A green lending product was designed to connect green investors, peer-to-peer lenders, intermediaries and green small and growing businesses in order to efficiently provide and deploy flexible working capital. As a secondary objective, the pilot sought to link the access to, and cost of, capital for green small and growing businesses to their positive environmental impact.

A local South African online lending platform allowed for the blending of different types of investors, such as individual lenders with institutional investors, as well as the blending of different types of capital, with different return expectations. The platform thereby offered the opportunity to de-risk investing in early-stage green businesses.
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1. **Introduction: The Piloting of an Alternative Lending Product for Green Businesses**

The case for supporting the growth of green Small and Growing Businesses (SGBs) is particularly strong in South Africa, as the imminent threat of climate change poses adverse implications for the way in which the economy operates and performs.\(^1\) Given South Africa's commitment to transitioning to a greener and more sustainable economy, evidenced in the National Development Plan and in its ratification of the Paris agreement, green SGBs are a critical pathway to reaching the country's intended nationally determined contribution to the reduction of greenhouse gas emissions.\(^2\) This is specifically due to their generation of positive environmental outcomes that address climate change adaptation and mitigation. In order to ensure the growth and successful scaling of green SGB models, adequate financial assistance and investment are required to unlock the desired levels of expansion and business model proliferation.

Limited access to finance for small and medium enterprises (SMEs) in South Africa is a highly prevalent and recurrent issue that has been documented over the years through various surveys and reports. According to the Global Entrepreneurship Monitor (GEM) South Africa 2016 report\(^3\), lack of access to finance and poor profitability are among the chief reasons for business discontinuance in South Africa. Traditional financial institutions are often reluctant to serve SMEs due to the high costs of assessing relatively small transactions, often volatile balance sheets, and the inherent risks involved with small or start-up businesses. The South African Institute of Chartered Accountants (SAICA) 2016 SME\(^4\) Insights report identified inadequate access to finance as the greatest obstacle to the successful operation of sustainable and profitable SMEs and states that "according to SMEs, the main reasons for business failure are overwhelmingly cash flow related". This has been further corroborated by a recent SME survey conducted by the National Small Business Chamber in 2016\(^5\), where respondent SMEs specifically ranked access to finance and cash flow constraints as the two top obstacles to the growth of their businesses.

Whilst access to finance is a challenge that affects most SMEs in South Africa, for green businesses the magnitude of this challenge is arguably amplified. Operating within the green economy, these SGBs differ from the more traditional characterization of SMEs in two fundamental ways. First, green SGBs are different from livelihood-sustaining small businesses, which start small and are designed to stay that way. In contrast green SGBs are designed to start small and grow rapidly.

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\(^2\) Department of Environmental Affairs, "South Africa’s Intended Nationally Determined Contribution (INDC)", [http://www4.unfccc.int/ndcregistry/PublishedDocuments/South%20Africa%20First/South%20Africa.pdf](http://www4.unfccc.int/ndcregistry/PublishedDocuments/South%20Africa%20First/South%20Africa.pdf) (July, 2017).


Secondly, green SGBs often struggle to access the financial and knowledge resources required for growth because investors often do not have the technical understanding of the green sector to be able to understand their business models, and thus the associated risk and return profiles.

This is highly evident in the South African context where the green economy is a relatively new sector, and therefore green investments have little precedence or track record to enable the full development of appropriate risk assessment methods.

Recognising this need to bolster access to finance for green SGBs in order to promote the growth of the green economy as well as climate change mitigation and adaptation goals, the World Bank’s Climate Technology Program (CTP) set out to test innovative finance mechanisms for green SGBs in South Africa. This process was initiated through the establishment of the South African Market Connect and Finance Lab consortium. Together, the partners in the consortium, the World Bank CTP, the UCT GSB’s Bertha Centre for Social Innovation and Entrepreneurship, and GreenCape, embarked on a journey to design a pilot that could drive more capital towards South Africa’s green SGBs.

1.1. Early-Stage Explorations And Design-Thinking

To conceptualise innovative finance ideas that would respond to the access to finance gap for green SGBs in the market, the consortium made use of the Human-centered Design-thinking Process, facilitated by the University of Cape Town Graduate School of Business’ (UCT GSB) d-school. This methodology was deemed suitable as design-thinking equips practitioners to develop human-centered solutions to challenges in contemporary contexts that are dynamic and complex, such as the challenge of access to working capital for green SGBs. The process is broken down into the following six phases:
The first three stages of the process above (understand, observe and define) result in the generation of insights about the landscape of the problem as well as an understanding of the potential users. The ideate stage results in the generation of ideas, the prototype turns ideas into reality, and finally test for practical viability.

As the pilot commenced, the project team spent nine months researching the early-stage finance market in partnership with local investment funds, Development Finance Institutions (DFIs), and the SGBs prior to the design and implementation of the alternative lending pilot. The table below outlines some of the key findings from this process.

**Figure 2: Systemic Limitations in the Green SGB Capital Market**

**CHALLENGES FACING GREEN FINANCIERS**
- Limited technical knowledge of the green sector resulting in high perceived risk and therefore higher pricing
- Limited available track record of green investments to guide accurate evaluation of deal risk
- Nascent of the sector requires costly business development which impacts deal economics by increasing transaction costs per deal
- Deal sizes are often small and thus the ratio of transaction cost to ticket size is too small

**CHALLENGES FACING GREEN SMÉS**
- Green SGB Business models are relatively new, untested and learn as they grow, which involves high innovation risk
- Green SGBs require flexible growth capital, however, their balance-sheets are often not able to offer collateral required by lenders
- Green SGBs do not have access to adequate resources to manage both the business and finance applications
- Green SGBs are seen as high risk by investors, and where they do qualify for financing, it is often unaffordable

Based on the stakeholder conversations and interviews, the team proceeded to ideate, prototype and test five innovative financial products that could potentially address the need for increased access to timely and affordable capital. These included an alternative green lending product for working capital.

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equity-based crowdfunding, Community Owned Renewable Energy (CORE) Projects, a sophisticated angel investor network, and an outcomes-based fund-of-funds structure. Following the stress-testing of these ideas, the partners decided to move forward with the alternative green lending product pilot and the outcomes-based fund of funds structure. The latter idea later developed into the Green Outcomes Fund, which is currently in fundraising stage.

The alternative green lending pilot was selected by the partners due to two key factors; First, it became evident during the consultation phase that there was a significant gap in the market for unsecured working capital for green SGBs. Secondly, the local implementation partner, RainFin, had an established track record in alternative lending to SMEs, which could be further developed to benefit green SGBs, as described below.

This report outlines the pilot activities, processes and learnings over the course of the implementation period of the alternative lending pilot.

2. Designing a Green Lending Product

During stakeholder meetings with specifically one capital provider, an existing online marketplace for SME lending named RainFin, the contours of a pilot had taken form. This pilot would leverage RainFin’s existing marketplace lending platform to create a distinct green channel that would enable funders to invest in smaller green deals, at lower transaction costs. Funders would outline criteria of companies they would invest in, which would be tested via a due diligence credit algorithm.

The platform would enable peer to peer lending to be supported by anchor investors interested in funding green SGBs. For green SGBs, this would enable timely access to affordable working capital. The platform would also enable access to additional technical assistance through partnering green incubators and accelerators, ultimately aiming to help the cost of capital reflect the risk/return profile of the SGB. These components would form the green lending product, which would ultimately also be able to add a green score alongside the credit score, thereby linking the cost of capital to a company’s environmental impact. Essentially, green SGBs applying for finance would be evaluated on the strength of their credit score, as well as their green score - with higher green scores resulting in access to finance
and, potentially, a lower interest rate, should the pilot be able to demonstrate the business case and attract a anchor funder.

2.1. The Workings of Working Capital in South Africa

Although there are financial products that specifically cater to working capital, and others for capital expansion, there are currently few available, or suited to, green SGBs during times of growth. The growth period for any business results in increased expenses over the short to medium term as working capital requirements rise in line with growth activities. In recognition of this, traditional lenders, (e.g. banks) offer short term (up to 12 months) working capital products such as overdrafts, revolving credit lines and medium term loans (up to 48 months) to help businesses bridge their working capital cycles. Unfortunately for many green SGBs, the option of accessing these products is not within reach as they fall outside the acceptable risk-appetite tolerance thresholds adopted by traditional lenders. Adherent to financial regulations, traditional lenders typically must adopt stringent credit assessment policies. These policies tend to exclude green SGBs from accessing unsecured, short to medium-term working capital finance at the onset. In the South African context, it can be argued that this perception of disproportionately high risk amongst these businesses can be attributed primarily to the nascence of the green economy, and thus limited knowledge of the green economy’s dynamics.

2.2. Why RainFin?

The RainFin platform was selected as a suitable partner primarily because they were an established player in the SME lending market within South Africa, and as such, had an existing track record in lending to businesses similar to the green SGBs that were the pilot’s primary target market. The fact that RainFin was fully established and actively lending in the market meant that the pilot implementation team were able to benefit from reduced time to implementation. Notably, RainFin had demonstrated that their technological infrastructure was functional and compliant with local regulations. The platform was also funded and backed by Barclays Africa Group (Absa), a reputable financial institution within the local financial services sector. RainFin management had a keen interest in exploring the green market further and therefore saw opportunity in the pilot. Lastly, it was agreed between the implementation team that the model had the potential to grow to other African markets. At the time of kick-off, Rainfin had started explorations for expansion into Kenya.

2.2.1. RainFin’s anchor funder model

In addition to the peer to peer online marketplace, RainFin had developed an anchor funder model through which institutional investors were able to set criteria and deploy capital to a select set, or types, of businesses that meet pre-determined criteria. Prior to the pilot, RainFin had already been deploying funding through this model, which was set up using capital from Absa as the anchor funder. Through the anchor funder agreement with Absa, a so-called ‘autobidder’ was established to provide ‘first bid funding’ to businesses that fulfilled the following criteria:

- More than 12 months trading history

7 The amount of SMEs funded through the Barclay’s autobidder is known to the implementation team, but not referenced here for confidentiality issues.
Based on this model, if a business fulfilled the above criteria, the autobidder would initially approve the loan from an applicant business. Following the approval by the autobidder, the loan would then go onto the platform and allow individual lenders to bid in and fund portions of the loan request, thus reducing the amount funded by the autobidder. This would therefore result in a structure where the anchor funder’s capital was deployed alongside individual investors to jointly fund a business’ loan. The individual investors’ proportion for each loan would depend on their interest in the specific loan application. This anchor fund model could consist of multiple funders and allowed for the blending of different types of capital, i.e. grant, concessional and market-rate, which would potentially allow for a higher risk tolerance. The model is visualised below.

Figure 3: RainFin’s Blended Finance Model

2.3. Co-Creation of The Green Lending Product

Based on the understanding of the green business funding landscape in South Africa, and the bottlenecks identified, the partners utilised the RainFin platform to co-create a green lending product. Again, the design-thinking process was utilized to establish stages of development for the product’s development. This involved live testing of the pilot objectives as well as on-going iterations, in order to arrive at the final green lending product. The pilot intervention intended to leverage and adapt the
existing RainFin platform in an effort to catalyse more investment specifically into green SGBs with working capital requirements under ZAR 5 million. The platform would enable businesses to raise working capital quickly (within 2-14 days) at competitive rates. The pilot objectives were:

1. To test and adapt an existing credit platform and tools for providing credit to green SGBs by running multiple pilot cycles (focused on deal sourcing, screening, on-boarding and credit provision)

2. To test green SGB appetite for such a product

3. To test investor interest by attracting new local and international funders to green SGBs through a platform-based approach.

4. To test whether the green impact of a business could be linked to (i) their ability to raise finance, and (ii) the subsequent cost of capital

5. To enable business sustainability: provide guidance on structure and approach to mitigate perceived risk and enable additional investment in green SGBs using a platform approach, that could be scaled across sectors and beyond South Africa.

2.3.1. A Green Anchor Funder

The anchor funder model described above enabled the pilot to test its objectives and endeavor to provide a platform that could limit the bottlenecks preventing access to capital for green SGBs.

These included:

- Reducing green SGB time and resources spent on the application through the tech-enabled funding application process
- Automation of credit scoring process by building on RainFin’s credit scoring system from A-D to classify businesses according to their risk as evaluated through assessment of financial information provided
- Reducing the legal transaction cost aspect of collecting funds from investors on the platform and channeling back repayments
- Providing ‘first bid funding’ (through an autobidder) which could be subordinated in a tranche by ‘trusted’ investors to encourage investment by retail investors on the platform thus potentially reducing the cost of lending for green SGBs and increasing the amount of capital available to green SGBs
- Aggregation of small deal sizes for institutional funders who do not want to incur transaction costs associated with multiple small deals
- Leveraging the ability to tailor the funding criteria to provide flexible and unsecured capital needed for growth by green SGBs
- Collation of useful data reflecting the performance of the green portfolio in order to contribute to building a local track record for green finance over times

This innovation, a platform for aggregating screened credit to green SGBs backed by an anchor funder, was designed to address both demand and supply side constraints, with the potential to be scaled to other sectors and emerging markets.

Figure 4: Demand and Supply Side Constraints Addressed by the Green Lending Product

<table>
<thead>
<tr>
<th>Demand For Credit</th>
<th>Supply Of Investment Opportunities</th>
</tr>
</thead>
</table>

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2.3.2. The Essence of The Green Lending Product

The green lending product was fundamentally designed to connect green funders, peer lenders, intermediaries and green SGBs in order to efficiently provide flexible working capital. This working capital product was characterized by a maximum tenure of up to 48 months\(^8\), required no collateral, and was non-prescriptive with respect to the use of funds within the business. Affordability was a further key consideration in designing the product, given that green SGBs often face high costs of capital due to lenders’ lack of familiarity with the dynamics of the green sector. As a secondary objective, the pilot sought to link the access to, and cost of, capital for green SGBs to their positive environmental impact by incorporating a green scoring algorithm to the overall evaluation process for these businesses. The green rating would effectively be added to the anchor investor fund criteria, and used alongside the credit rating to determine the cost of capital on a green SGB’s loan. Ultimately, this would allow the pilot to link the cost of capital to the shades of green as some businesses would be more impactful than others, but it would also enable greater sector impact, as the autobidder would be able to specify particular sectors and preferences of funders.

A notable opportunity that the RainFin platform provided was that it would allow the pilot to blend different types of capital, not only that of individual and SME lenders with institutional investors through the anchor investor model, but also different types of institutional funders participating in anchor funder agreements. While RainFin’s strategic objective is to be a competitive alternative to bank finance, it also aims to be a catalytic solution for SGB finance. The platform therefore allows for various de-risking elements to be implemented when structuring an autobidder. Below is an overview of the product’s design.

Figure 5: Green Lending Product Pilot Overview

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\(^8\) These criteria were set by the Absa autobidder
In order to test the product, the team initially intended to approach impact investors and development financiers who wanted to catalyze investment into green SGBs. As a result of obtaining capital from such institutions, green investors would then gain access to a pipeline of investable green market deals. Furthermore, at the time of pilot inception, RainFin indicated they had noted interest from DFIs. These DFIs expressed interest in potentially funding the higher risk loans, as well as the rejected applicants, if RainFin were to put in place mitigation measures such as business development training for those applicants. Such loans might be catered for through an autobidder that would be ring-fenced specifically for green SGBs.

To demonstrate demand for the product and outline how a potential autobidder should be tailored to green SGBs, the partners sourced a pipeline of green businesses with the objective to get a sample set of these funded, thereby testing the business case in order to attract a dedicated green anchor funder. The first round of testing was to be conducted to determine the suitability of RainFin's existing credit scoring process for the green SGBs on a standalone basis, with the intention of identifying potential necessary refinements for further iterations. The testing was therefore reliant on the funding that was previously availed to RainFin through the Absa autobidder, and was also to be utilized within its existing investment mandate. As such, the initial green pipeline was sourced with this in mind. From there on, the pilot implementation team, alongside RainFin, intended to develop a green scoring process, that would be used in tandem with the modified credit scoring process to design an autobidder as well as evaluate the cost of capital for green SGBs.

The team also set out to develop a green partner programme in order to source green SGBs for the pilot. Targeted partners included green industry associations, as well as incubators and accelerators. These partners would be incentivised by a 0.5% origination fee, which they would receive should their referred businesses’ be successful in obtaining funding on the RainFin platform.

### 2.4. The Price of Green: Developing a Green Scorecard

In order to test whether the green impact of a business could be (i) linked to its ability to raise capital, and (ii) the subsequent cost of capital, the pilot aimed to develop a green scorecard similar to the principles of the credit scoring. This scorecard would be used to (i) identify whether a business qualified as ‘green’ in order to participate in the pilot and (ii) ultimately grade its green impact using the same scale as RainFin’s credit scoring (A-D). The two ratings would determine (i) whether the business qualified for funding, and if so, (ii) the appropriate terms of capital. This green scorecard would complement the credit scoring algorithm used on the RainFin platform, and potentially influence the access to and cost of capital for green SGBs creating positive environmental impact.

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9 This approach was, to some extent, guided by the criteria of the programmatic funder in order to demonstrate demand for the alternative lending product. At the time of incubation, RainFin expressed a preference to source capital with a green mandate for the pilot.
2.4.1. **Phase 1: Green or not green?**

During Phase 1, whilst the team was testing the existing credit scoring algorithm for green businesses accessing financing through the Absa autobidder, a binary green definition was designed by GreenCape to enable RainFin to classify businesses as “green” or “not green”. In order to qualify for lending during the first phase, the business had to qualify as green under this definition.

During this phase, Rainfin also sent out a survey to businesses that had previously been funded through the platform, in order to identify how many of those would qualify as green. The survey asked: Are your company’s products or processes structured to restore or preserve the environment in any of the following ways? Of the businesses that responded to the survey:

- 32.1% of them said yes to: Through a manufacturing, wholesales or agricultural process which is designed to significantly reduce environmental impact compared to typical practices for the industry, and;

- 50% of them said yes to: Through a product or service that preserves, conserves or restores the environment or resources.

2.4.2. **Phase 2: How green?**

Simultaneously, the project team worked to develop a green scorecard methodology that would go alongside the credit scorecard, i.e. as businesses went through the application process, they would receive a credit score from A-D as well as a green score from A-D. This would feed into the design of the autobidder criteria, in addition to being published on the platform for individual lenders.

The green scorecard development process involved a scoping exercise for existing green measurement tools already recognized by the market. The main reasoning behind this was the fact that in order for investors to accept and trust the green scorecard, sufficient track record and market recognition would be required. Market recognition and credibility was also a specific requirement for RainFin from a green score perspective. Other criteria used in selecting a green scorecard methodology included ease of practical application by green SGBs, as well as low cost of methodology application.

The team considered several green assessment tools, which could be used to create a green scorecard. This included engaging with B-Lab, whose metrics are widely adopted in the impact investing industry, and Kudos Africa, a South African ESG measurement business specializing in unlisted African businesses. GreenCape, as the local green sector development agency, provided valuable expertise in the scorecard ideation process.

It was planned that once a suitable methodology was identified in line with the criteria above, subsequent pilot phases would focus on testing the joint use of the credit scorecard and the green scorecard to evaluate the green businesses. Following the iterative process of the design-thinking methodology, any necessary refinements would be made, and ultimately the final green lending product parameters would be formulated. As will become evident from the following sections, this activity was paused as of November 2016 in order to focus on the development of the pipeline of green SGBs, which was deemed the greater short-term priority in order to fulfil the objectives of the pilot.
The multiple objectives were divided into project cycles, as outlined below in the review of implementation activities. While moving through these cycles, the team intended to deepen the exploration of the nascent alternative lending sector in South Africa by partnering with Nesta in the United Kingdom (UK), where peer to peer lending and the alternative finance sector were more established. Nesta is an independent charity which has pioneered much of the research into crowdfunding and peer to peer lending in the UK and globally and would act as a knowledge and research partner.

Based on the premise that online alternative finance models such as peer-to-peer lending (P2P) have become a vital source of finance for small businesses, and that they play an increasingly important role in the financing of clean technology enterprises, renewable and green energy projects in both developed and developing economies, the partners explored the potential of hosting knowledge events and drafting research reports in the UK and South Africa. Due to the timing of the pilot iterations, this did not materialize.

2.5. Review Of Design-Thinking Phases

The pilot’s activities were split into phases in order to allow ongoing refinement and iteration. The initial pilot approach and the intended phases are depicted in the graphic below, followed by a review of the pilot’s activities and pivots.
2.5.1. Phase 1: June 2016 – August 2016

Cycle 1: Testing on-boarding and existing algorithm & interest in MVP

In the first 3 months of the pilot, the team focused on successfully funding at least 5 businesses on the RainFin platform in order to test the existing credit algorithm and demonstrate a pipeline of green SGBs. The team initially sourced 45 businesses through a survey extended to businesses within local networks - largely those from GreenCape’s database - and identified 6 of these as businesses that met RainFin’s minimum criteria required to apply for funding on the platform. Upon an initial screening, these businesses were deemed to fall within RainFin’s A-D credit score range. After engagement with the team, the businesses committed to applying for a loan on the platform.

During this time, RainFin’s existing autobidder had been fully committed, leading to no autobidder funding being available to fund businesses applying for loans on the platform. This delayed the progress of the pilot as the individual lenders on the platform usually only fund a minority of loans. RainFin therefore advised the pilot businesses to halt their applications.

As applications were stalled, the goal of funding 5 businesses was not achieved by the end of this phase. The team started cycle 2 activities, in order to continue achieving other objectives of the pilot. Towards the end of the phase, RainFin also began the process of buying back Absa’s 49% equity stake, which was ultimately finalised in November 2016, and as a result placed lending activity on the platform on a temporary hold. At the end of August and beginning of September 2016, it was unclear how long this process would take. RainFin initially projected that it would take 1-2 months.

2.5.2. Phase 2: September 2016 – December 2016

Cycle 2: Focus on testing deal sourcing relationships and pipeline

As the buy-back process was on-going at the beginning of phase 2, the pilot’s activities shifted towards the partnership programme and pipeline building. In early October, it was clear that the negotiations between RainFin and Absa would take longer than anticipated. RainFin therefore committed funding from their shareholders for an autobidder, in addition to supporting the green SGBs with a marketing campaign to their lender database. The new capital that was to be provided however was characterized by a decreased risk tolerance, which led to businesses that had initially been deemed appropriate
candidates, no longer qualified for funding. The capital was only available for businesses that could obtain a credit score between A-B (the initial Absa-funded autobidder allowed for credit ratings between A-D). It is important to note that RainFin revised their credit policy during this phase due to the risk appetite of its new potential investors, and moved towards a credit scoring policy, which included a Moody’s rating and a Transunion rating over and above RainFin’s own financial assessment. This made the credit assessment policy conservative and increased the likelihood of pilot businesses being rejected. The implication of the tighter credit scoring process was that the profile of the businesses identified as the pilot’s target market, were largely excluded from qualifying for the funding available, similar to the conditions green SGBs encountered with traditional lenders, as discovered during the research phase. These developments, which were driven by market economics and reduced appetite to fund perceived higher risk businesses, reflected that RainFin’s offerings were beginning to mirror more commercial lending terms and thus the green business directed to the platform faced difficulties in accessing the platform.

Phase 2 included the following key steps:

**Green partner program**

In order to develop a pipeline of green SGBs, the team sought to identify intermediaries whose mandates entailed a focus on working with or supporting green SGBs. These institutions were targeted as pipeline partners channeling potential green borrowers to the platform as they were active industry associations operating in green sector. A total of 12 potential pipeline partners were sourced for the pilot. Of these partners, 4 were incubators and accelerators and 8 were industry bodies or association for various sectors within the green economy. By the end of October 2016, 4 pipeline partners were successfully on-boarded, namely GreenCape, Fetola, WWF-SA and SAREBI. These partners were incentivised by the 0.5% origination fee they would receive should their referred businesses be successful in obtaining funding on the RainFin platform. Through these pipeline partners, the team engaged an additional 70 businesses.

**Developing the investment case and engaging potential capital partners**

During phase 2, the team tested interest with local and international potential investors in providing capital towards an autobidder that would be specifically earmarked for the green lending product. The test marketing exercise demonstrated interest in the product and approach from leading SGB investors. Due to the on-going re-capitalisation of RainFin following the buy-back from Absa, a decision was made to halt the onboarding of investors until RainFin had finalized their restructuring and re-capitalised the business.

Following the pledge of funding from Rainfin’s shareholders, the pilot team continued to channel green businesses towards the platform, with the goal of funding at least three green SGBs and thus develop the investment case. Whilst the team had anticipated that the availing of the additional capital would result in successful onboarding of businesses, a more stringent autobidder criteria was applied10, thus somewhat excluding green SGBs identified through the pilot from qualifying for funding. This reduction in risk appetite, whilst understandably reflective of the constraints facing the holders of the additional capital, meant that the pilot was still unable to develop and demonstrate an investment case for green businesses.

The project activities related to RainFin are summarised in figure 7 below:

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10 Shareholder capital would only be committed to businesses with a credit score of A-B, and not A-D as has been the case of the ABSA autobidder. Furthermore, RainFin initially applied a further requirement of an asset base of 1M ZAR, which was later revoked due to the profile of the green SGBs.
Pilot pivot during phase 2: On-boarding new partners

During phase 2 of the pilot, the team approached two additional funding platforms to participate in the pilot. This critical pivot from RainFin being the sole partner in the pilot was underpinned by changes firstly in the needs identified from new engagements with the pipeline businesses, and secondly in the restructuring of RainFin, which led to the above-mentioned changes to the risk appetite and the halting of deals on the online marketplace.

The criteria for selecting additional partners was centred around gaining further insights into the most appropriate design for a green business lending product. Through the scoping exercise, SCF Capital Solutions, and Lulalend were identified to participate in the pilot as additional alternative finance providers, alongside RainFin. SCF Capital Solutions were chosen as they had recently started offering specialised project finance to green SGBs, for which the team had identified a strong need during engagements with the pipeline. Lulalend was chosen as an additional online lending platform, which would enable the team to continue exploring the potential of the online, alternative lending sector in South Africa. Descriptions of the two platforms are included below:

**SCF Capital Solutions** provides short-term funding, covering project specific finance, supply chain finance, bridging finance, invoice discounting and working capital to SMEs in the green economy. SCF started disbursing financing from January 2016, from a ZAR 60 million fund from the Development Bank of South Africa and SEFA. In a single year, SCF disbursed ZAR 45 million, demonstrating strong demand for financing in the green economy. In December 2016, SCF secured an additional USD 34 million through a combination of financing from the Green Climate Fund, SEFA, DBSA and a private investor to provide financing to businesses in the green economy in South Africa. SCF Capital utilizes a project finance based assessment process to determine the pricing and structuring of their lending. This assessment takes into consideration the risk profile of the project off-taker, the project’s revenue profile as well as an analysis of a green SGBs performance track record, as opposed to the pure balance sheet analysis approach employed by traditional lenders.

**Lulalend** is an online platform based lender, offering short term loans to small and growing businesses. Lulalend employs a cashflow based approach towards assessing financing requests from businesses. The approach involves the analysis of bank statements, cash balances and cashflow projections to determine the appropriate loan amount and repayment profile to offer a business. This is in contrast to the approach undertaken by traditional lenders who focus predominantly on reported financial statement analysis.

Both of these alternative lenders agreed to assess businesses directed their way through the pilot, and subsequently share the findings from the financing applications with the team. Table 1 below summarises the offerings of the three finance providers.

**Table 1: Finance Providers**
3. Pipeline of Green SGBs

Two pipeline development strategies were tested within the pilot from June 2016 – February 2017. In the first cycle, the Bertha Centre directly sourced green businesses, primarily through surveys and referrals. In the second cycle, the Bertha Centre sourced businesses through the establishment of the pipeline partner program, which involved engaging various intermediaries in the green economy to source potential businesses in their various networks. Ultimately, the pilot was able to identify a pipeline of green businesses who required flexible working capital and project financing in South Africa. This is exemplified by the 148 green businesses engaged by the partners through the pilot, as well as the existing green portfolio of both RainFin and SCF Capital Solutions over the course of 4 months. In the following, are outlined the key findings related to capital needs and green opportunity sectors.

### 3.1. Pipeline Analysis and Observations

HOW THE PIPELINE WAS IDENTIFIED?

What We Looked For:
- Businesses which have proof of transactional history
- Ideally been in business for more than 12 months
- Businesses and directors with a current credit rating
- Businesses which have an annual turnover of over R1 million, and/or
- Businesses which have assets of over R1 million
Of the 166 businesses which came out of the outreach, 17 were found to not fit the binary definition of a Green SGB, developed by GreenCape, the pilot’s green sector technical partner. These were removed from the list for further investigation.

Of the remaining 148 candidates (see Table 2 below), 27 were pre-revenue and early-stage startups which, while illustrative of the entrepreneurial potential in their respective industry sub-sectors, did not yet possess sufficient revenue traction or asset bases to fit into the definition of a green SGB. Nonetheless, it was important to include these pre-revenue startups as indicators of the innovation potential within the different industry sub-sectors, the full range of capitalisation needs in the market, and to capture the exceptions which could be forging new business models.

The 148 businesses were mapped across two parameters—their industry sub-sector and their current “liquidity level”, meaning a 12-month estimate of their revenues at a current run rate, in order to suggest a usable profile of the market. Liquidity levels were graded from 0 to 5 in order to estimate the kind of financing that may be applicable within each level.

Another working assumption is that level 4 and 5 candidates are either tracking positively toward monthly cash flow break-even (CFBE) or are already profitable. For all except the candidates who applied for capital during the pilot period, the team did not have access to details on how long candidates have been operating profitably, which would naturally have a big effect on their traditional creditworthiness.

Table 2: Pipeline Summary

<table>
<thead>
<tr>
<th>Industry Sub-Sector</th>
<th>Total</th>
<th>%</th>
<th>Level 0 Rev. ≤R0</th>
<th>Level 1 Rev. R0 - R200’000</th>
<th>Level 2 Rev. R200’001 - R500’000</th>
<th>Level 3 Rev. R500’001 - R1’000’000</th>
<th>Level 4 Rev. R1’000’000 - R2’000’000</th>
<th>Level 5 Rev. R2’000’000 - R5’000’000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agriculture</td>
<td>15</td>
<td>10%</td>
<td>1</td>
<td>3</td>
<td>2</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>Energy Efficiency</td>
<td>8</td>
<td>5%</td>
<td>0</td>
<td>0</td>
<td>2</td>
<td>1</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>(Lighting)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Energy Fuel</td>
<td>9</td>
<td>6%</td>
<td>2</td>
<td>2</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>4</td>
</tr>
<tr>
<td>Energy Solar</td>
<td>26</td>
<td>17%</td>
<td>5</td>
<td>0</td>
<td>4</td>
<td>2</td>
<td>4</td>
<td>11</td>
</tr>
<tr>
<td>Energy Storage</td>
<td>5</td>
<td>3%</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>(Battery)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Waste Recycling</td>
<td>47</td>
<td>32%</td>
<td>10</td>
<td>9</td>
<td>3</td>
<td>3</td>
<td>9</td>
<td>13</td>
</tr>
<tr>
<td>Water</td>
<td>14</td>
<td>10%</td>
<td>3</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>2</td>
<td>5</td>
</tr>
<tr>
<td>Other</td>
<td>24</td>
<td>16%</td>
<td>5</td>
<td>2</td>
<td>3</td>
<td>3</td>
<td>4</td>
<td>7</td>
</tr>
<tr>
<td>Total</td>
<td>148</td>
<td>100%</td>
<td>27</td>
<td>17</td>
<td>16</td>
<td>14</td>
<td>26</td>
<td>48</td>
</tr>
<tr>
<td>Proportion</td>
<td></td>
<td></td>
<td>18%</td>
<td>11%</td>
<td>11%</td>
<td>9%</td>
<td>18%</td>
<td>32%</td>
</tr>
</tbody>
</table>

**GREEN SGB PROFILE: BIOGREEN**

Green business specialising in renewable energy production and organic fertiliser from waste oil

**Business model innovation:** Biogreen has secured contracts with major retail outlets, restaurants and hotels to obtain the waste cooking oil discarded by these entities and converts it into two different products, namely bio-diesel and fertiliser.

**Funding challenge:** Securing capital for expansion beyond their current size. They have a significant capital requirement to carry out the next phase of their growth and the process and duration of sourcing the funding is proving very time and resource intensive.
These 148 green SGBs present an interesting snapshot of the state of maturity in the South Africa’s main green industry sub-sectors. It is important to note that these were sourced over the course of only 4 months and that the pilot looked for businesses with capital needs of less than R5 million. Visualised in the manner above, the team is able to consider (i) the proportional representation of candidates by industry sub-sector, (ii) the proportional representation of candidates by liquidity level, and (iii) the clustering of candidates by industry sub-sectors and liquidity levels.

3.1.1. Pipeline observations by liquidity level

Overall, the pipeline examination revealed several noteworthy characteristics of businesses in the green industry in terms of each candidate’s position within an overall business development lifecycle, i.e., stage of liquidity or creditworthiness in each of the main green industry sub-sectors. Three energy-related industry sub-sectors, namely Energy Efficiency, Energy Solar and Energy Storage, all have 50% or more of their candidates in the green SGB liquidity levels 4 and 5. Within liquidity level 3, two candidates are online financing exchanges (namely crowd financing and invoice factoring) that could potentially be significant enablers of the overall green SGB ecosystem.

3.1.2. Pipeline observations by sector

Agriculture

Despite the sovereign necessity to shore up food security, strong domestic and regional market demand for agricultural produce, and a high potential to implement technological solutions to boost productivity in South Africa, the Agriculture sub-sector in the green financing candidate pipeline was surprisingly underrepresented. Only 8.5% (12) of the candidates were in the Agriculture sub-sector. There were, however, at least two candidates that offer significant innovations with international applicability well beyond the borders of South Africa, namely AgriProtein, a technology that utilized maggots to recycle organic waste into organic fertilizers and healthy food stock for small animal farmers, and DroneClouds, an expert group that provides incisive spectral analyses of crops and farmlands to aid with crop health management, as well as sustainable water and resource usage.

Energy efficiency

Only seven candidates fell into the Energy Efficiency sub-sector, and none of these were pre-revenue startups. Since energy systems are generally very technical, startups in this space are typically incubated in university research settings sponsored by large corporations, which bridge them from R&D directly into production. The majority of the candidates in the pipeline were engineering consulting and installation companies that fall into liquidity levels 4 and 5. They are likely private breakouts from successful construction companies to pursue the small-scale market base.

Energy fuel

There were 9 businesses in this section of the pipeline, and a clear majority of them were more developed than others in the pipeline. Notably 5 of the 9 businesses were classified level 5 (greater than R2 million turnover), 1 at level 3; 2 at level 1; and 1 at level 0, pre-revenue.

This likely reflects the perceived highly-technical nature of biodiesel production leading to more sophisticated companies operating in this sector.

Energy solar

The Solar Energy industry sub-category represented the second largest grouping of candidates (26), a healthy innovation component illustrated by a high proportion of pre-revenue startups (19.2%), and evidences good commercial maturity with more than 61% of candidates occupying liquidity levels of 4 and 5. However, a gap in the first liquidity level (R1 – R500 000) may suggest that new solar equipment or services struggle to gain initial sales traction and, therefore, the industry could benefit from more access to grant capital or venture capital.

In terms of product focus, 5 of the Solar Energy candidates (19.2%) offered solar water heating products, with the remaining 21 candidates predominantly offering either solely PV electricity generation...
or a mix of solutions that include electricity generation. Two of the candidates were either bidding for, or already engaged in, one or other government projects which could therefore qualify for invoice financing.

The challenge for financing in this industry sub-sector arises from the fact that solar systems remain costly enough to require long repayment terms: 3-5 years for solar water heater systems and 7-12 years for photovoltaic energy systems. On the other hand, solar energy systems are expected to remain efficiently productive for 10-15 years. This means that investors in solar energy businesses need to value longevity and require patience, unless the commercial activity can be rapidly scaled.

**Energy storage**

Fabricated energy storage devices and mechanisms tend to call for advanced technologies, and is likely the reason that energy storage sub-sector reflected the smallest defined industry sub-sector in the pipeline in terms of number of candidates; 5 out of the 148 candidates. The polarized distribution of the candidates across the liquidity levels illustrates that small companies in this sub-sector tend to be either birthed by innovators from costly research and development, established as licensees or local agency of technical solutions from one of the developed markets.

The 2 candidates in the lower liquidity levels (0 and 2) are inventors and distributors of their own innovations. Both had clearly invested significant product development capital and were deemed potential candidates for late-stage seed capital, crowd funding or venture capital, unless they have secured any significant commercial orders. The remaining 3 candidates were distributors or installers of imported solutions, and were in the growth stage (liquidity levels 4 and 5) of their businesses.

**Waste**

The total waste category made up 32% (53 companies), comprising of sub-categories recycling (26%, 42 companies), E-waste (4%, 7 companies) and other waste (2%, 4 companies). The large percentage of respondents in the recycling category reflects the low barriers to entry for this sector, particularly the low capital requirements, as well as low technical skill needed. This makes recycling a natural entry point for many SGBs in the green sector.

However, when further analyzing the reported data in regards to revenue and assets of these companies, it becomes evident that because of the low barrier to entry for this sector, many of the companies involved are either at start-up phase or have very low turnover, most likely relatively low levels of business sophistication and so are not particularly suited to direct investment or significant expansion, given the transaction costs involved and risk regarding business processes and management.

When classifying the respondents in the Waste group by level of turnover, there was a concentration in the Levels 0 and 1 (10 respondents each) and then again in Levels 4 and 5 (11 and 14 respondents respectively).

This confirms the observation that the sector is attractive and accessible to new entrants. However, it is interesting to note that there are also a fair number of more developed companies operating in the sector. These were mostly represented by paper, plastic and glass recycling materials recovery facilities.

**Water**

The Water sector showed a disproportionate representation in the high-revenue categories. Of the 10 active participants (13 including pre-revenue) a total of 7 (70%) were in categories 4 and 5 (turnover above R1million) and 50% above R2 million.

Water treatment and management is both highly technical and capital intensive and by its nature, even a startup business in this sector will have relatively large turnover from just a few projects. Retailing of water related equipment may be lower, but given that a single pump averages between R3,000 – R10,000 even retailers in this sector can quickly grow in turnover.
Considering the financial profile of businesses in the Water sector both as an equipment retailer and as a treatment project company, this is a sector, which will significantly benefit from financial support in terms of working capital.

As mentioned above, many single items of water management equipment can be relatively expensive and so to adequately stock up on inventory as a retailer, as well as be able to offer 30-day credit accounts typically expected by trade customers, requires a fair amount of working capital availability.

For water treatment companies, the projects more typically follow the profile of engineering or construction companies. For these companies, the working capital needs are even greater considering that to build a treatment plant takes several months, during which large-ticket items need to purchased up-front, but the customer will typically have only paid a deposit of 20%, with progress payments at certain milestones. It is seldom possible to match all the cash outflows with the timing of the deposit
and progress payments and therefore a working capital need develops. As the company grows, this working capital need is exacerbated and if not met can develop into the classic “growth trap” whereby the company falls victim to its own success.

This was illustrated by the example of one of the candidates in the water sector who grew rapidly over the last three years from a turnover of R8m to R24m and currently sitting with an order book of R38m in water treatment plants to be built. The business struggled to complete these, however, because their cash was locked up in long project lead times, and the related growth in the debtors book and inventory, but with limited improvement in suppliers credit terms.

4. Some lessons from pilot implementation

As of March 2017, when the pilot was paused, over 160 green businesses had been engaged and at least 70 were identified as potential users of the credit platforms (borrowers) based on vetting the businesses using a high-level analysis of their asset and revenue being above R1 million, a key component of RainFin’s previous analysis criteria. Estimating an average funding size ZAR 500 000, this translates into identified funding needs of almost ZAR 40 million in just over three months.

The majority of businesses engaged were interested in the RainFin offering. Businesses interested in the RainFin offering responded positively to the term of the financing, which has a tenure of up to 48 months, as well as the fact that the platform did not have restrictions on what the financing had to be used for. This resulted in RainFin having the highest number of businesses committing to undertake the application. A total of 10 businesses undertook the RainFin application. It should be noted that this was also done under some time pressure to the companies given the pilot phases and timeline.

For those looking for project financing with a term less than 12 months, SCF was, to some extent, filling that need and will continue to do so with their new capital from the Green Climate Fund. This funding is mandated for short-term, project-based lending.

With respect to Lulalend, whilst some green businesses did express interest in pursuing funding from this platform, a significant barrier to qualification was the cashflow restrictions many green businesses face. This is especially true for businesses whose revenue is not received through consistent cashflow patterns, e.g. businesses who operate primarily on service provision contracts. The platform is well suited to businesses demonstrating strong
consistent cashflow patterns, especially where cashflows are derived from retail product sales. It should be noted that this was a short term working capital product and that Lulalend was also in the process of demonstrating their business model.

As the pilot uncovered a need for the type of capital, which could be provided through a green lending product with the pilot partners, alternative funding platforms might have a role to play in solving the distribution challenge for investors and the access challenge for local green SGBs. The following learnings were established through the pilot.

4.1. Lessons Learnt From The Rainfin Application Processes During The Pilot

Testing the RainFin credit scoring process within the pipeline found that its new parameters were, to some extent, too risk averse for the green pilot businesses initially sourced based on the risk appetite of the Absa’s autobidder (i.e. having moved from accepting a credit score of A-D to A-B). In the absence of Absa’s autobidder, the credit extension terms (shareholder capital) was aligned to more mainstream capital providers risk appetite for unsecured SME lending and thus the following businesses engaged in the pipeline were declined. This does not imply that the platform was not well-suited, but rather, that the current revised credit scoring criteria required by the committed investors was not. It is therefore highly likely that had RainFin not been going through the restructuring at the time of the pilot, the result may have been different. This is due to the fact that the revision was based on the lack of availability of funding in the autobidder from Absa, and the fact that the Rainfin management team had to recapitalize the business due to the buy-back from Absa, prior to fundraising for the autobidder. It should be noted that the platform is tailored to specific investors’ criteria; and should a green investor be on-boarded, the algorithm and autobidder would be based on the learnings from the pilot in terms of capital needs.

4.1.1. An overview of RainFin applications

The following is an overview of the results of the applications on the RainFin platform. The actual credit scores are known to the implementation team.

CT Labs

The application was declined as the majority of the business’s assets comprised of Intellectual Property (IP), which is difficult to loan against, as per RainFin’s current algorithm.

Ecoheats

The business had negative net profits for the last two financial periods. The business had an upwards trajectory in terms of revenue since 2010, up until 2014, and positive net profit between 2012 and 2013. However, their infrared heater sales dropped significantly in 2014 (from close to R3 million to R500 000). This drove the business to diversify their portfolio, adding motion sensors to their product offering. The business’ revenue had recovered to almost R2 million for 2015 and expected to break even in 2016.

This history and context was not part of the RainFin application process, only the last two financial statements were considered, and current secured contracts were not considered. This proved to be a challenge as a business’ financial statements do not reflect the value of the contracts, which in
Ecoheat’s case were ‘guaranteed’ future revenues. (Ecoheat’s contracts have added security as the clients also sign personal surety) \footnote{It is important to note that RainFin’s credit policy and corresponding business rules, e.g. debt service coverage ratio (DSCR), profitability, etc, was established with the view of publishing loans on the RainFin Marketplace that unsophisticated investment knowledge could lend to, either alongside institutional investors or in the absence of institutional investors. As such, the business rules can appear conservative. RainFin is continuously looking to expand its product offering based on the understanding that there is a need for other products, e.g. cash-flow based loans, invoice-backed loans, etc.}.

It was interesting to note that Ecoheat applied for a R3 million loan, indicating that the entrepreneurs are not always clear on the structure of the financing solution they require. Upon interviewing the business, it became clear that the business could access smaller amounts (R150 000 – R500 000) that are more aligned to their contract’s revenue expectations. This could also allow the business to improve their credit assessments as they pay off the loans. Financing the business on a project basis also offers the opportunity for the cost of financing to be based on a combination of the service providers’ technical competency and experience, and their clients’ ability to pay. This may improve the potential cost of credit, compared to the cost of credit simply being based on the business’s financial position, especially if the client is a blue chip business or in a significantly better financial position.

Selectra

The business had scored relatively well on the credit assessment but received the worst score on the TransUnion rating, which is part of the overall rating. This was due to the business having a dispute with the South African Revenue Service (SARS). The business was not aware of this dispute, but this is a red flag on the TransUnion assessment as it indicated a governance and compliance issue.

Solar for Africa

Solar for Africa performed above the risk tolerance threshold for all of RainFin’s credit assessment. The only indication of why the application would have been unsuccessful was the loss from the previous financial year, and the fact that a significant amount of their assets were receivables. This is due to Solar Africa’s project payback, which is spread over an extended period. This was not factored into the platform’s credit scoring algorithm.

YWaste

The business had a loss in the recent financial period. It was also interesting that the business’s sector (SIC Code) was classified as geological and prospecting activities. The Moody’s rating (part of RainFin credit scoring) assesses a business’s expected default rate by using data from similar businesses within its sector. The sector YWaste (food waste management business) was classified under usually geological and prospecting activities. This is in the fact that their business is unattractive to funders looking for purely financial returns with no consideration for social impact. If the business could have performed differently had it been in a different classification, it would have been worth assessing if green businesses’ activities are classified correctly.

4.1.2. Key take-aways from RainFin application process

It should be noted again here, that the aim of this exercise was to identify how green SGBs would perform in lieu of RainFin’s existing algorithm, which was designed for a specific lending mandate not tailored to green businesses. Based on the sample of rejection reasons from the businesses that applied

GREEN SGB PROFILE: Y-WASTE

Commenced operation in 2010 specialising in worm farming and compost manufacturing and later expanded into food waste management

Business model innovation: is in the fact that their main input into production of compost, food waste, is also a key source of revenue as they charge clients for the collection of this waste. The revenue covers all operating costs and the business breaks even before selling their main product.

Finance challenge: The company struggles to access favourable, unrestricted finance with affordable terms. The company invests all profits into growth and expansion to support its environmental impact and job creation philosophy. This means that their business is unattractive to funders looking for purely financial returns with no consideration for social impact.
to the RainFin platform, the following key takeaways should be considered in designing a green lending product on the RainFin platform:

➢ If a business’ net profit is negative, the loan application is likely to be unsuccessful.
➢ If the business’ net profit after deducting the potential monthly loan repayment is negative, the loan application is likely to be unsuccessful.
➢ If the business’ net profit after deducting the potential monthly loan repayment is positive, but an increase of up to 3% in the interest rate causes the net profit to be negative, the loan application will be unsuccessful (affordability stress test).
➢ If the majority of a business’ assets are in intellectual property, the chance of the loan being successful are greatly reduced.
➢ Secured contracts are not taken into consideration during the application process. Given that financial year-ends are fixed dates that are set arbitrarily, they do not necessarily coincide with revenue receipts, especially for project based businesses whose revenue timings are determined by clients. Such businesses therefore have a higher propensity of recording losses on financial statements due to mismatches in financial reporting in contrast to revenue recording/collection.
➢ There may be value in business’s speaking to a financial consultant before deciding what they believe are the right loan terms.

4.2. Lessons Learnt From SCF Capital Application Process Through The Pilot

SCF Capital Solutions invested in one of the businesses identified through the pipeline, namely Mendomark. SCF Capital approved a R 272 000 credit facility for Mendomark, which was to be used to purchase and install water meters for a property manager. Upon evaluating the reasons why Mendomark qualified for funding from SCF Capital, unlike the other businesses referred to the SCF Capital platform, SCF Capital noted the following distinctions between Mendomark and the other businesses:

Many of the pipeline businesses that were interested in SCF Capital’s offerings did not have any imminent projects that the business could assess for funding. As the platform’s capital is only availed on a project assessment basis, several businesses interested in the project offering were not able to qualify for funding without underlying contracts. SCF has noted, across their engagement with businesses, that a lot of SMEs often have no financial backing to tender for contracts. SCF has therefore started to support such entities by offering non-committal letters of intent to provide financing to enable such SMEs to at least access the tendering processes. Providing this service bolsters the SGBs credibility and increases the chance of securing tenders. In turn, SCF benefits from this, in the event that the business is awarded the tender, and thus this has developed into a pipeline building strategy.

The Mendomark project was the right fit for the product offered by SCF, as it was based on a short term project with an underlying secured contract from a reliable off-taker. Whilst they are increasingly looking to source funding from investors whose terms of funding allow for longer tenures of financing, SCF’s current mandate enables short term lending only.

Where Mendomark had a strong business and operating model which resulted in cash inflows from services provided, the other green SGBs interested in the SCF product only had contracts whose repayments would emanate from energy savings over a long period of time. The latter contract is best financed specifically through energy savings contract financing, which is typically long-term and not in line with SCF’s purchase order finance and invoice discounting model.
5. **A Gap in the Market for a Green Lending Product**

Whilst the green lending product development process did not reach full completion due to the changes in the pilot direction during Phase 2, there were valuable takeaways established from sourcing and onboarding of the green businesses, and working with three finance providers. Firstly, the pilot was able to establish the need for a local, tailored green lending product and provided a snapshot of the opportunity sectors in the green economy. This was evidenced through the green SGB pipeline built during the sourcing period which constituted of businesses requiring finance to grow. The analysis of the existing but relatively new portfolios of investable green businesses at both RainFin and SCF Capital further corroborated this finding, and reflects an opportunity to further cater to the green SGB market segment and reduce the funding gap faced by these businesses.

From the businesses that were unsuccessful in undergoing the revised credit scoring process on the RainFin platform, it became evident that developing and tailoring an automated credit scoring process for a particular market segment, should be based on pipeline analysis, but also with committed capital in mind. The model would have the potential to attract funders specifically interested in green lending, and be able to cater to funders with different risk-return preferences. These could range from funders interested in catalyzing funds towards green businesses willing to accept higher risk, to those who are looking for lower risk, but willing to accept lower returns. RainFin is currently developing different business lines, which are based on different investor preferences in addition to blending public and private funds in order to lend to SGBs that would not be attractive to traditional lenders.

Rainfin has continued its market building activities since the pilot and concluded a follow on funding round from Lebashe Investment Group, which increased the Group’s stake to 75%. Early 2018, RainFin created two divisions – one with a focus on Corporate Debt infrastructure, and the other as SME Credit marketplace focused on building a SME funding ecosystem. The Corporate Debt division has partnered with 4 Africa Exchange, one of the new licensed stock exchanges in South Africa, to ‘provide technology and platform services to companies to raise debt directly from the market in the form of technology-led self-origination, cost-effective arranging, bookbuilding and debt private placement.’ (Source: Rainfin, May 2018)

Whilst the pilot uncovered the demand for green finance by green SGBs, investor appetite for green SGB lending was not sufficiently demonstrated. An initial test marketing exercise reflected significant interest, but the pilot was not able to explore this further within its timeline due to the restructuring of RainFin. The development of green finance providers like SCF Capital, however, reflects that investor appetite does exist within the local market for green lending, as seen through the significant amounts of capital they have been able to mobilise. Should a green investor be interested in developing a similar green lending product, the pilot provides insights on how the credit assessment process could be tailored towards this specific pipeline.

*If developing a similar green lending product, an appropriate credit assessment algorithm would have to take the following into consideration:*

- A deeper understanding of the different business models within the green sector, so as to understand the sector’s risks better and therefore price those risks more accurately.
- Pure balance-sheet based approaches are not suitable for green SGBs as their financials are not always indicative of business health, due to high expenditure into projects and growth.
- There exists high demand for unrestricted longer-term working capital to enable green SGBs to repay loans without constraining their cashflow, as well as to channel funding towards different areas of the business without restriction.

In developing a green lending product, setting up an anchor investor fund is advantageous as it allows for the opportunity to blend different types of capital should there be a need for de-risking mechanisms. This risk capital would allow the funder to test different mechanisms in order to, for instance:
➢ Alter the repayment terms to better suit the business models of green businesses, i.e. based on a % of invoice income instead of fixed monthly payments.

➢ Align the credit terms to the potential funder and provide different repayment terms.

5.1. Innovative Finance Trends in Alternative Lending

Since developing the anchor funder model pilot new trends have emerged within the alternative lending market for SMEs. A most notable and interesting trend that appears to be gaining traction is that of new innovative finance instruments that integrate a sustainability lens into pricing financial products. Earlier in 2017 for instance, Philips received a loan from ING that is priced linked to the sustainability ranking provided by ESG rating provider, Sustainalytics. The loan has been structured to incentivize Philips to maintain or improve their ESG ratings, as higher ratings will result in decreases in their interest cost. Similar trends are emerging within South Africa as well, where impact investing funds are starting to link pricing to the level of measurable social impact an investee company can generate through its operations. The above concepts of linking the sustainability rating to the pricing of lending share many similarities with green lending product designed by the pilot implementation team two years ago, and was to be tested through the anchor fund model. It is encouraging to note that whilst at the time of design, there was little to no evidence of such products in the market, more finance providers are starting to incorporate the creation positive social impact into their finance products.

Other trends emerging within the alternative finance landscape include finance providers who are developing new ways to approach credit assessment that are not reliant upon the provision of formal financial statements and documents. Examples of these include finance providers who base their lending assessments on cashflow analysis and historical bank statement activity. This can be especially instrumental for SGBs who are sales oriented with stable cash inflows, but lack the financial track record, or balance sheet stability to access more formal lending. In addition to this, new partnerships are emerging between platform-based finance providers and entities that host transactional data for SGBs. In such instances, finance providers can access transactional data of their potential investees in order to establish the levels and sales and expected revenue that would be available for repayments. The proliferation of these new approaches to assessing businesses are reflect one of the pilots key insights relating to the complexities of developing appropriate scoring process for SGBs, and that the process requires an understanding of the targeted business models.

5.2. Lessons From the Implementation of the Innovative Finance Pilot

In addition to the above, the pilot uncovered learnings for the implementation of an innovative finance pilot that may be useful in future application, the first of which relates to upfront availability of capital. Whilst the pilot partnership intended to mainly leverage the existing infrastructure on the Rainfin platform and test its adaptability for green SGBs, the success of this was reliant upon the availability of the Rainfin platform’s existing funding. Once the funding available to the platform was fully utilized, however, the revised credit scoring process underpinning the new funding made available no longer aligned to the profiles of the green SGBs sourced for the platform. Had there been an allocated amount of money upfront to test the initial credit scoring process, the pilot may have been able to progress to the next stages of refining the credit scoring process for a green autobidder, and developing and testing the green scorecard. Designing innovative finance instruments for SGBs with a social or environmental impact often includes a higher risk tolerance than mainstream financial instruments, and it can therefore be challenging to get them fully implemented and funded. Given the timeline sensitivity of the pilot, it would have been opportune to have a small amount of match funding available in order to attract other potential funders.

In light of the above, it is evident that although the pilot did not result in the envisioned design of the green lending pilot, useful learnings and insights were generated during the implementation process. Additionally, the implementation team is aware of multiple lending products under way in the market, which mirror the design of the pilot and are, to some extent, a result of the work of the pilot. Elements of the design and the lessons learned can be used to inform the formulation of a similar product in the
green market, or at the very least, increase awareness of the green SGB lending market within South Africa.
6. **Annex 1: Partners**

Launched in 2012, RainFin’s pioneering online Credit Marketplace enables Borrowers to access affordable debt capital and Investors (Institutional and Retail) to access a new asset class, i.e. Alternative Credit, thereby earning attractive, fixed income returns. To date, over 300 loans have been disbursed through the platform. RainFin: “Redesigning Finance, Enabling Inclusive Growth”.

Bertha is the first academic centre in Africa dedicated to advancing social innovation and entrepreneurship. Founded in 2011, it has partnered with the Bertha Family Foundation to advance social and economic change in the areas of Innovative Finance, ScaleShift, Education and Health in Africa. The Bertha Centre led the design and implementation of the pilot.

GreenCape is a sector development agency supporting businesses operating within the green economy in the Western Cape area of South Africa. The organisation provides facilitation services, including for investment and technology providers, to local businesses. GreenCape provided support to the pilot through its technical sector desks and business network.

The World Bank Climate Technology Program (CTP), team provided technical input, e.g. around structuring and design. Additionally, through its global network building efforts, the team will facilitate relevant connections to key resources for the project, helping it to succeed and facilitating replication into new markets. This includes organizing input from funders, regulators and specific technical experts.

SCF Capital Solutions was founded in 2015, as a financing business with a specific focus on the Small and Medium Enterprise (SME) market. SCF Capital Solutions provides short-term working capital to SMEs with public/private sector contracts - to provide goods and/or services. The funding provided can be utilised to cover the cost associated with fulfilling the contract.

Founded in 2014, Lulalend is a fin-tech start-up business which seeks to provide flexible credit in to small businesses in an efficient and timely manner. Lulalend provides short-term capital to healthy businesses with strong cashflows, through a simple online platform application form.