

SOUTH AFRICA'S GREEN FUND

FINANCING THE TRANSITION TOWARDS AN INCLUSIVE GREEN ECONOMY



environmental affairs

Department:
Environmental Affairs
REPUBLIC OF SOUTH AFRICA



PARTNERS

The Green Fund aims to attract foreign investment and additional national investments into the greening of the South African economy to complement existing financial support. The Fund thus actively seeks international and local partners from the private and public sectors.

PUBLICATION SUPPORT

The Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH provides support to the South African government's Department of Environmental Affairs in the field of the green economy. This support is funded through the International Climate Initiative (IKI) of the Federal Ministry for the Environment, Nature Conservation, Building and Nuclear Safety (BMUB) under the project "Enhancing Low-Carbon Development by Greening the Economy in Co-operation with the Partnership for Action on Green Economy (PAGE)". One of the areas of co-operation includes evaluating the impact of the South African Green Fund as it relates to national green economy targets and developing communications products to demonstrate the impact the Green Fund has had thus far. This publication has been developed as one of three communications products.

MORE ON THE IKI

The IKI finances climate and biodiversity projects in developing and newly industrialising countries, as well as in countries in transition. The initiative focuses on climate change mitigation, adapting to the impacts of climate change, conserving natural carbon sinks/REDD+ and protecting biological diversity. Priority is given to activities that support creating an international climate protection architecture, to transparency, and to innovative and transferable solutions that have an impact beyond the individual project.





CONTENTS

Foreword	1
Highlights	2
Introduction	4
Investment projects	8
Research projects	29
Capacity-building projects	34
Conclusion	38

ACRONYMS AND ABBREVIATIONS

BMUB	Federal Ministry for the Environment, Nature Conservation, Building and Nuclear Safety
C	Celsius
COP	Conference of the Parties
CSIR	Council for Scientific and Industrial Research
GIZ	Deutsche Gesellschaft für Internationale Zusammenarbeit
ibert	Iskhus Bio4Gas Express Reactor Technologies (Pty) Ltd
IKI	International Climate Initiative
kWh	Kilowatt hours
PAGE	Partnership for Action on Green Economy
REDD	Reduced emissions from deforestation and forest degradation
SANParks	South African National Parks
SME	Small and medium-sized enterprises
SMME	Small, medium and micro-sized enterprises
UNEP	United Nations Environment Programme
UNFCCC	United Nations Framework Convention on Climate Change



“The funded projects have also illustrated how green economic development can be successfully linked to social upliftment. The Green Fund has supported the creation of more than 2 300 direct jobs, and facilitated more than 9 000 indirect job opportunities.”

FOREWORD

When South Africa launched the Green Fund in 2012, the country became one of the first in Africa to develop a national green fund. The Green Fund aims to catalyse the country’s transition to a green economy by investing in innovative projects that will help realise a low-carbon, resource-efficient and climate-resilient future.

By 2016, the Fund had approved a total of 55 projects and disbursed R782 million to investment projects, research initiatives and capacity-building programmes for implementation. The projects cover a diverse range of sectors important to South Africa’s economic growth, including agriculture, mining and transport. The Fund also supports the country in realising its international commitments, particularly the Sustainable Development Goals and the Paris Agreement, by strengthening South Africa’s ability to adapt to and recover from climate change impacts and reduce greenhouse gas emissions.

With both the country’s development agenda and its broader international commitments in mind, the Fund has focused on innovative projects with the potential to realise significant and multiple benefits that reinforce climate change and sustainable development policy objectives. It has invested in projects that would have struggled to access funding for implementation without its support,

but that hold potential to attract additional resources, thus allowing them to scale up.

The strength of the Green Fund has been its willingness to fund new and emerging green technologies and projects that offer sustainable solutions within the sectors of waste management, transport, renewable energy and biodiversity management. This focus has contributed towards the promotion of resource efficiency, and resulted in the launch of several new products and technologies.

The funded projects have also illustrated how green economic development can be successfully linked to social upliftment. The Green Fund has supported the creation of more than 2 300 direct jobs, and facilitated more than 9 000 indirect job opportunities. Furthermore, approximately 9 000 people have been trained in a diversity of fields. Most projects have fostered a sense of pride in the communities within which they operate, and several acknowledge and help to elevate traditional knowledge. The Green Fund has facilitated an exchange

of knowledge between academia and scientific institutions and communities. In addition, its focus on funding research and building capacity will realise medium- to long-term benefits for the country by generating a knowledge base and skills that South Africa will need in its transition to a green economy.

Looking forward, the Department of Environmental Affairs hopes to build on the Green Fund’s successes and use the lessons learnt through formal and independent reviews to develop sustainable funding models and attract financial and other resources to continue to fund green initiatives. In this way, it will be able to continue to play its role in supporting a transition to a socially inclusive and climate-resilient future.

NOSIPHO NGCABA
Director-General:
Department of Environmental Affairs

HIGHLIGHTS

2 355 DIRECT JOBS
CREATED



9 285 INDIRECT JOBS
CREATED



812 WOMEN EMPLOYED
IN DIRECT JOBS



8 857 PEOPLE TRAINED



>R184M INVESTED IN
RENEWABLE ENERGY
PROJECTS



>R159.5M SPENT ON WASTE
REDUCTION PROJECTS



21 230 HECTARES OF LAND
REHABILITATED, PROTECTED
AND/OR CONSERVED

17 POST-DOCTORAL
FELLOWSHIPS GRANTED



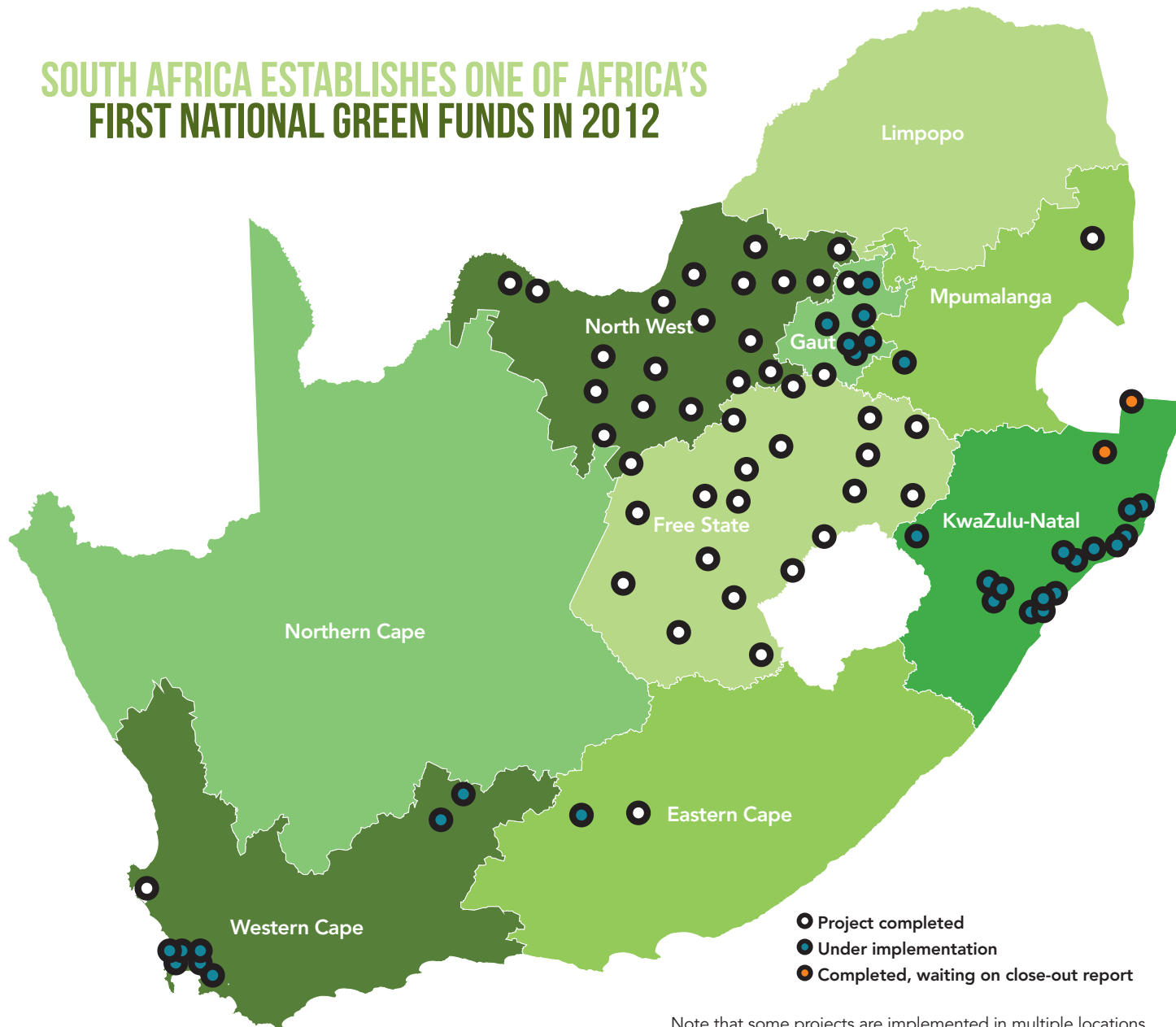
10 LEARNERSHIPS FUNDED



MORE THAN 50 BUSINESSES
AND 130 ENTREPRENEURS
MENTORED



SOUTH AFRICA ESTABLISHES ONE OF AFRICA'S FIRST NATIONAL GREEN FUNDS IN 2012



**R1.1 BILLION
ALLOCATED BY 2016**

**55 PROJECTS FUNDED:
19 ACTIVE INVESTMENT
PROJECTS, 16 RESEARCH
AND DEVELOPMENT
PROJECTS, AND 8
CAPACITY-BUILDING
PROJECTS**

**PROJECTS LEVERAGED
R89 167 215
FROM OTHER INVESTORS
IN ADDITION TO THE
GREEN FUND'S SUPPORT**

- Project completed
- Under implementation
- Completed, waiting on close-out report

Note that some projects are implemented in multiple locations.

INTRODUCTION

South Africa strives to be a global leader in addressing its climate change commitments. Current economic models cannot fully address development challenges, which will only be exacerbated by climate change impacts such as biodiversity loss, food insecurity and constrained water resources. The country is seeking new ways of realising economic growth that is socially inclusive and climate-resilient, and promotes environmental protection. This alternative to prevailing economic structures is dubbed the “inclusive green economy”.

To establish itself as a frontrunner in the transition to a greener economy, the South African government, through its Department of Environmental Affairs, established the Green Fund in 2012. This was one of the first national green funds established in Africa. The Fund supports green initiatives that contribute to the country’s transition towards a low-carbon, resource-efficient and climate-resilient growth path.

The United Nations Environment Programme (UNEP) defines a green economy as one that leads to “improved human well-being and social equity, while significantly reducing environmental risks and ecological scarcities”. UNEP’s publication *Uncovering Pathways Towards an Inclusive Green Economy: A Summary for Leaders* (2015) provides further impetus for the shift to an inclusive green economy. The publication outlines how the green economy can address current challenges and the principles needed to make the transition. It also highlights the importance of collaboration to drive change.



The idea of an inclusive green economy links to the concept of low-carbon development, which has gained increasing attention since the 21st United Nations Framework Convention on Climate Change (UNFCCC) Conference of the Parties (COP) held in Paris in December 2015. The Paris Agreement was a momentous step towards a more resilient and sustainable future. For the first time, 195 nations agreed to keep global temperature rise below 2°C and to drive efforts to limit the temperature increase to 1.5°C above pre-industrial levels.

Adopted in September 2015, the 2030 Agenda for Sustainable Development provides a global framework for “transforming our world” through inclusive, climate-friendly, resilient and resource-efficient development. It includes 17 Sustainable Development Goals, comprising 169 targets that address a wide range of issues, such as ending poverty and combating climate change. Sustainable Development Goal 8 most clearly aspires to “promote sustained, inclusive and sustainable economic growth”. However, the urgent need for a transformation towards a greener and more inclusive economic

development path is reflected in most of the goals. The green economy offers an important vehicle for achieving the aims of both the 2030 Agenda and the Paris Agreement.

The Green Fund supports the following Sustainable Development Goals:



POLICY CONTEXT

While there is no dedicated “green economy” policy framework for South Africa, there are several key strategies, policies and initiatives that provide a mandate for such development. These include:

- ▶ The National Framework for Sustainable Development (2008), which outlines South Africa’s vision for sustainable development and identifies strategic interventions to transition to a sustainable development path.
- ▶ The New Growth Path (2010), which identifies the green economy as a key driver for job creation.
- ▶ The Green Economy Accord (2011), an agreement between government and the private sector, organised labour and civil society, that commits
- ▶ The 2011 National Climate Change Response Strategy, which describes South Africa’s response to climate change, including a focus on creating jobs in green economy sectors and on promoting investment in human, natural and capital resources to grow the green economy.
- ▶ South Africa’s National Development Plan (2012), which mainstreams low-carbon and climate-resilient development.
- ▶ The Industrial Policy Action Plan II (2010/11–2012/13), which outlines strategic initiatives to develop green industries.

signatories to, among other things, promote green sectors of the economy to create jobs and to green other traditional sectors.

“The successful establishment of the national Green Fund, which is fully supported by the national fiscus, heralds a significant step taken by South Africa in its commitment as a responsible global player.”

– Dr. Jenitha Badul, Senior Policy Advisor – Greening Programmes & Fund

“The national Green Fund, during its four years of existence, has created more than 11 000 jobs (both temporary and permanent), trained 8 857 people, contributed towards ongoing research, (including patent development), and increased the quality of life of many South Africans while minimising negative environmental impacts.”

– Dr. Jenitha Badul, Senior Policy Advisor – Greening Programmes & Fund

The Green Economy Summit, held in 2010, was pivotal in shaping South Africa’s decision to move to a low-carbon, resource-efficient and climate-resilient growth path. Stakeholders from government, academia, civil society and business came together to identify key focus areas and priority actions for South Africa’s green economy. Following the summit, government implemented several key initiatives, one of which was the Green Fund.

THE GREEN FUND

The Green Fund aims to support innovative and diverse ideas that contribute to South Africa’s development.

Green Fund objectives

The Fund has four objectives:

- ▶ Promote innovative and high-impact green programmes and projects.
- ▶ Reinforce climate change and sustainable development policy objectives through green interventions.
- ▶ Build an evidence base for the expansion of the green economy.
- ▶ Attract additional resources to support South Africa’s green economy development.

Funding process

The Green Fund identifies projects through public requests for proposals, which are advertised in print media as well as on the Green Fund website. In

addition, the Fund actively seeks out and supports initiatives that meet its selection criteria, which include the ability to deliver high-impact economic, environmental and social benefits.

In considering applications, projects must demonstrate:

- ▶ Relevance to the Fund’s funding windows.
- ▶ Innovation – through technology development, business modelling, institutional arrangements or financing approach.
- ▶ Additionality – that they would not have proceeded without the Green Fund’s support.
- ▶ Scale-up – the potential to be rolled out to other sites and/or implemented on a larger scale.

“Somkhanda was lucky enough to receive funding through the Green Fund for the Farming the Wild project. We’ve worked closely with the community to develop a viable business ... that’s more attractive to investors.”

– David Gilroy, manager at Somkhanda Game Reserve

Government provided financial support of R1.1 billion for the Green Fund (2012–2016). The Green Fund approved 55 funding applications by end-2016. These projects are categorised as investment, research and capacity-building projects.

Green Fund evaluation

As part of an important learning and reflection exercise, the Department of Environmental Affairs has engaged with key, yet independent reviews of the Green Fund during 2015/2016, to further deepen the understanding of the Fund’s impact as well as its efficacy.

The Department will use the study’s findings to enhance its current processes and funding model, to continue supporting the country’s transition toward a low-carbon, climate-resilient green economy.

PROJECT WINDOWS

The Green Fund considers opportunities within four funding windows, which reflect national policy priorities, focus on sectors promising high impact and have the potential to be scaled up or replicated.



Green cities and towns: The vision of this window is to strive for well-run, compact and efficient South African cities that deliver services effectively, while using available resources sustainably. Focus areas include sustainable transport, sustainable waste management and renewable energy.



Low-carbon economy: South Africa, being a carbon-intensive economy, strives to decouple economic growth from its impact on the environment. Therefore, this window aims to achieve a low-carbon growth path in line with government policy by supporting initiatives that focus on, among other things, promoting resource efficiency, alternative sources of energy and cleaner production.



Environmental and natural resource management: South Africa's economy is heavily dependent on the country's natural resources. These resources provide important ecosystem services and thus need to be sustainably used. This window therefore strives to protect and conserve resources for sustained development by supporting initiatives that, for example, promote sustainable land use management.



Innovation for the green economy: Projects qualifying for funding within this window must demonstrate innovation, irrespective of the other three windows. Innovation is cross-cutting. As such, projects may potentially straddle windows.

INVESTMENT PROJECTS

The Green Fund's biggest focus has been on supporting investment projects – projects that demonstrate and contribute to practical ways in which to transition towards a low-carbon, resource-efficient and climate-resilient development path. In addition to Green Fund funding, it should be noted that there are several other project partners that provide financial and other support to these projects.

As of end-2016, there were 19¹ active investment projects, addressing a

wide range of localised and industry development needs, including empowering women and developing clean energy alternatives. Waste management and renewable energy projects have received the biggest portion of funds, followed by energy efficiency and payment for ecosystem services projects. The majority of approved projects are located in KwaZulu-Natal, Gauteng and the Western Cape.

Although project impacts have been varied, job creation and training

have emerged strongly across the investment projects, resulting in positive socioeconomic impacts in local communities. These impacts also align with the goals of various policies, including the National Development Plan and the Green Economy Accord.

Broader impacts include contributing to the growing green economy knowledge base, which can be used to expand and replicate successful projects.

“Green jobs are not just jobs. They are jobs that are interesting, meaningful and relevant to the way the world is moving.”

– Damian Conway, Sustainability Institute Innovation Lab director

¹The Green Fund approved 31 investment projects, 19 of which were active as of end-2016. The remainder of the projects have been cancelled, withdrawn or completed.





CAMDEBOO SATELLITE AQUACULTURE PROJECT

Project owner: Blue Karoo Trust

Project type: Food security

Project window: Environmental and natural resource management

Green Fund funding allocation:
R23.5 million

Location: Graaff-Reinet, Eastern Cape

Outcomes to date:

- 119 direct and 142 indirect jobs created
- 84 people trained
- R10.25 million in external financial contributions
- 8 new economic entities created
- 4 prototypes developed

Contribution to Sustainable

Development Goals:

- Goal 1: No poverty
- Goal 5: Gender equality
- Goal 8: Decent work and economic growth
- Goal 10: Reduced inequalities



PERFORMANCE MANAGEMENT THROUGH SOCCER

To teach workers about the necessity and benefits of performance management as well as to motivate staff, the Blue Karoo Trust developed a "soccer game". The different production units (such as hatchery staff and the training tunnel staff) compete with one another to score the most points in key performance areas. The staff are awarded points ("score") for work related to water quality, size sorting, fish growth and mortalities. For example, the staff are scored on how they handle the fish when sorting them by size. This game has built relationships among the staff and helped them work together as a team.

"When you work together as a team, you don't feel the work because you're working nicely with your team. So, this soccer game helps a lot."

– Noluvuyo Matutu, team leader of grower tunnel C



Description:

The Camdeboo Satellite Aquaculture Project farms catfish to reduce reliance on overexploited and declining wild fish stocks. It simultaneously develops skills and creates self-employment opportunities for women living in rural areas, promotes pro-poor economic growth, increases food security and encourages social equity in Camdeboo.

The project established a sustainable freshwater fish industry in Camdeboo Local Municipality through aquaculture clusters. These comprise a central management farm and a network of about 50 satellite farming systems. Each aquaculture cluster is designed to produce 1 144 tons of fish per month and provide employment to 3 214 (500 direct, 1 640 indirect and 1 074 induced) people. The central structure provides support, training, mentorship and access to markets to the clusters.

Skills training and empowering women is a key focus. The majority of employees are local women and youth, who receive training through the project's workforce development programme, which includes foundational learning and continuous skills development. Furthermore, the project provides support to small, medium and micro-sized enterprises (SMMEs).

It also contributes to environmental sustainability by recycling water and

using solar energy, making it a self-sustaining enterprise.

The project has entered into several successful partnerships: it has partnered with Crown National to develop a recipe book of fish-based meals and has a commercial agreement to export 10 tons of the fish produce to Nigeria.

"This is a really wonderful opportunity. We are growing from strength to strength every day. The morale of the people who work here is just amazing. They come from very little or nothing and they've worked their way up. They are so proud of what we stand for here at Blue Karoo, and they are proud to be women in the community who are providing for their families."

– Monique de Lauwere, hatchery and training manager

CAVALIER BIO- WASTE TREATMENT AND COMBINED HEAT AND POWER FACILITY

Project owner: Iskhush Bio4Gas Express
Reactor Technologies (Pty) Ltd (ibert)

Project type: Waste management and
renewable energy

Project window: Low-carbon economy

Green Fund funding allocation: R5 634 000

Location: Cullinan, Gauteng

Outcomes to date:

- 5 direct and 35 indirect jobs created
- 5 people trained
- R7.3 million in external financial contributions

Contribution to Sustainable Development Goals:

- Goal 7: Affordable and clean energy
- Goal 8: Decent work and economic growth
- Goal 9: Industry, innovation and infrastructure
- Goal 13: Climate action





Description:

This project involves the treatment of waste generated at the Cavalier Abattoir (3 480 tons per year under Phase 1) through anaerobic digestion, a process that produces both methane gas and organic fertiliser. The methane is fed into two engine-driven combined heat and power units to produce electricity and heat. The heat is channelled back to the biodigester unit to maintain optimum treatment conditions, while the electricity is supplied to the abattoir's internal distribution network.

The power capacity of the units is 260 kilowatts, while the potential yearly electricity and heat production capacity is 0.85 gigawatt hours and 1.104 gigawatt hours respectively.

This project reduces reliance on grid energy (abattoirs are energy-intensive).

In addition, the project helps the abattoir to use and manage its waste responsibly and effectively, thus reducing its impact on the environment. The wastewater has the potential to pollute rivers and groundwater sources.

Approximately 40 percent of this water is re-used in the biodigester, thus reducing potential for pollution and water demand. Health risks posed by waste are also significantly reduced.

The project has increased regulatory and industry awareness around biogas, as well as providing regulatory input and sharing technical knowledge, thus increasing replicability potential. Because of this project, a biodigester safety valve is now manufactured in South Africa.

Phase 1 of the facility has been completed and is operating. Phase 2 of the facility is under construction.

“I think the key learning point is that it is definitely something that can be applied or rolled out. It's something that can be multiplied into other industries or farms. Farmers can actually generate their own energy with the biomass that they have. They've got manure, they've got waste that they sometimes don't know how to process, and this is a nice economical way to do it and generate something useful like energy.” – Otto Hager, ibert

FARMING THE WILD

Project owner: Wildlands Conservation Trust

Project type: Land use management and models

Project window: Environmental and natural resource management

Green Fund funding allocation:
R22 732 416

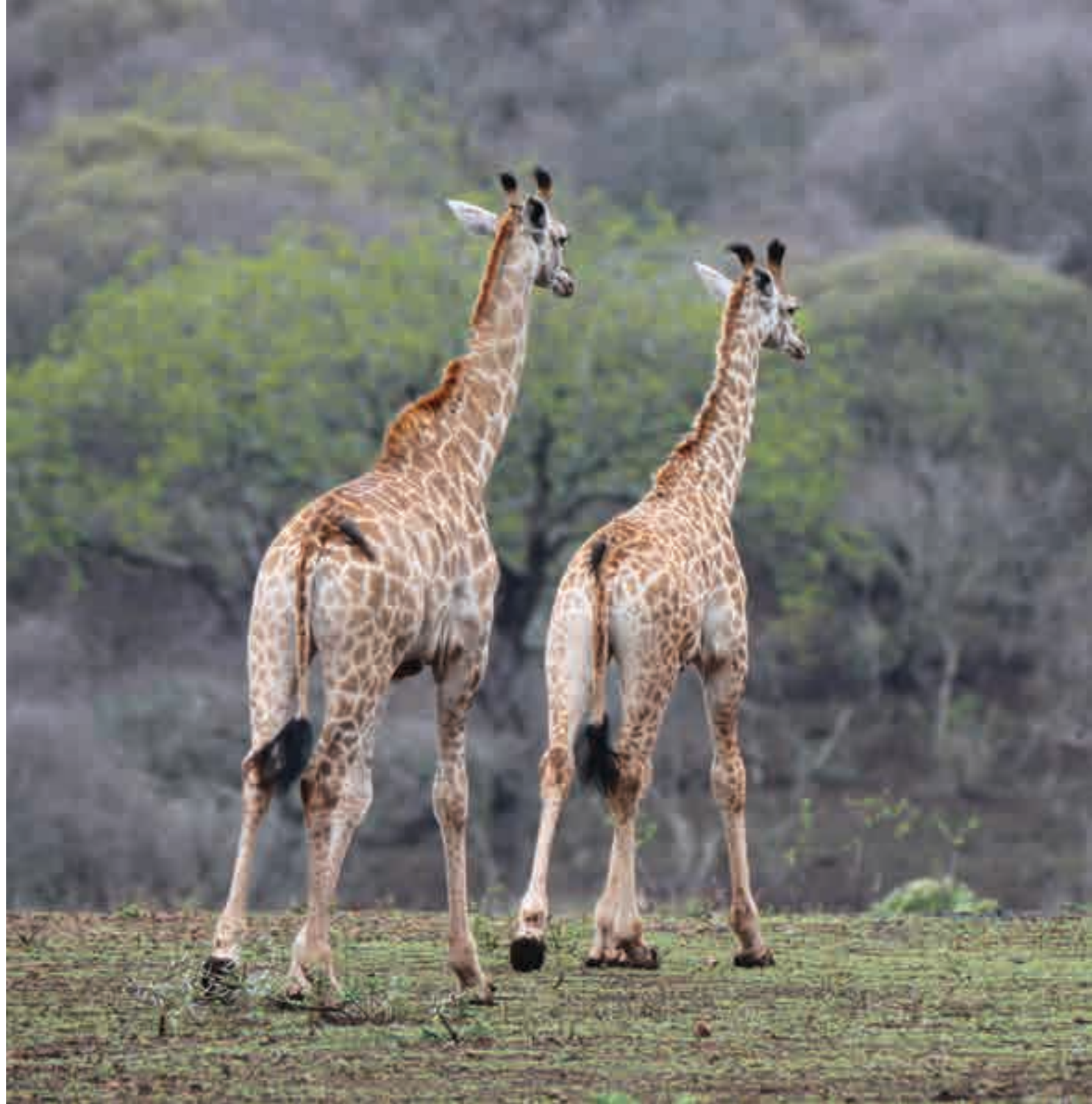
Location: Somkhanda and Usuthu Gorge, KwaZulu-Natal

Outcomes to date:

- 66 direct jobs, 17 indirect jobs and 25 part-time jobs created
- 32 people trained
- R7 951 569 in external financial contributions
- Somkhanda is the first community-owned conservation area to be formally proclaimed as a protected area under the National Environmental Management: Protected Areas Act (2003)

Contribution to Sustainable Development Goals:

- Goal 8: Decent work and economic growth
- Goal 10: Reduced inequalities
- Goal 15: Life on land





Description:

Natural habitats in Zululand have been transformed on a large scale due to agriculture, mines and urban settlements. This has led to habitat fragmentation and biodiversity loss.

The Farming the Wild project aims to create jobs and uplift communities while conserving biodiversity by promoting community game reserve development. The project is innovative as it begins to address the entire value chain of sustainable game farming.

The Wildlands Conservation Trust has helped two rural communities in KwaZulu-Natal to implement community game farming on 15 000 hectares of restituted land – Somkhanda Game Reserve (owned by the Gumbi community) and the Usuthu Gorge Game Reserve (owned by the Mathenjwa community).

As a result of the project, 15 100 hectares of land is now under improved management. Savanna and thicket biomes as well as riparian vegetation have been restored. Infrastructure at the reserves has been improved and game introduced, including zebras, wildebeest and impala. The total estimated species stocks (as of April 2016) stand at 758 at Somkhanda and 469 at Usuthu Gorge.

The reserves derive their income mainly from live game sales and ecotourism.

This innovative project trains and mentors local community members to work at the reserves, with the ultimate aim of handing over the entire game farming operation to the community.

“This community has been progressive – they have chosen to take their land and create a new protected area. And with that, develop something for their community.”

– David Gilroy, manager at Somkhanda Game Reserve

“When I received the call, they said, ‘Your CV has been received there.’ I was clapping my hands. I didn’t sleep at night, knowing my dream had been fulfilled.”

– Nkosinathi Mbhele, reserve manager at Somkhanda Game Reserve

ISHACK

Project owner: Sustainability Institute
Innovation Lab

Project type: Sustainable human settlements

Project window: Green cities and towns

Green Fund funding allocation: R17 million

Location: Stellenbosch, Western Cape

Outcomes to date:

- 11 jobs created
- 8 people trained
- R182 000 in external financial contributions
- 1 026 solar systems installed
- 92 556 kilowatt hours (kWh) per year saved
- About 3 000 lives improved
- Free basic electricity municipal grant secured

**Contribution to Sustainable
Development Goals:**

- Goal 7: Affordable and clean energy
- Goal 9: Industry, innovation and infrastructure
- Goal 12: Responsible consumption and production





Description:

The iShack project promotes energy security for the poor that cannot access the necessary infrastructure through the installation of pay-for-use solar power units in Enkanini, an informal settlement in Stellenbosch. The package includes a solar panel, lights and a television.

Users access and pay for the solar power via monthly instalments. They can also buy prepaid electricity from informal convenience shops. To further uplift the community, local entrepreneurs are trained to carry out maintenance and repairs.

This project builds on funding provided by the Bill & Melinda Gates Foundation to roll out the solar power units to 100 shacks in Enkanini. The project used the funding from the Green Fund to expand the model and demonstrate its viability on a larger

scale. iShack has installed 1 026 solar systems to date.

The iShack project improves household living conditions and helps users meet basic energy needs at an affordable price. From a safety perspective, it reduces the potential fire hazard from candles and paraffin. Moreover, it reduces the number of illegal electrical connections.

The project continues to develop and test innovative payment options for users who struggle to pay the monthly instalments, as well as ways to incentivise users to continue paying, such as giveaways and competitions.

COMMUNITY UPLIFTMENT THROUGH SOLAR POWER

“A really nice example is a woman who said, ‘You know, when I go to work, now I can participate in conversations about current affairs.’”

– Damian Conway, Sustainability Institute Innovation Lab director

“People with solar panels have lights, they have TV, they are safe.”

– Tulsiswa Somta, maintenance agent

SHEPHERDING BACK BIODIVERSITY

Project owner: Landmark Foundation Trust

Project type: Payment for ecosystem services

Project window: Environmental and natural resource management

Green Fund funding allocation: R7.5 million

Location: Beaufort West, Western Cape

Outcomes to date:

- 14 jobs created
- 10 people trained
- More than R70.5 million in external financial and other contributions

Contribution to Sustainable Development Goals:

- Goal 8: Decent work and economic growth
- Goal 9: Industry, innovation and infrastructure
- Goal 15: Life on land



PREDATORY-FRIENDLY FARMING

Livestock are hunted by several predators in the area, including the black-backed jackal, caracals and leopards. Traditional lethal control methods such as poison and gin traps are expensive and ineffective as the predators return after several months. The Shepherding Back Biodiversity project has illustrated that it is possible to successfully manage predation through non-lethal controls. These include placing collars on the sheep, as jackals only go for the neck of an animal when attacking. There is also a mechanical "shepherd" that emits sounds (such as dogs barking and alarms) and smells at random intervals. The shepherds' presence and grouping the animals together act as further deterrents.



Description:

Unsustainable agricultural farming practices (poor land use management and lethal predator controls) in South Africa have resulted in land degradation and biodiversity loss of both plants and wildlife in productive agricultural areas.

The Shepherding Back Biodiversity project aims to reverse these trends by encouraging the uptake of shepherding, which has been on the decline, and supporting conservation-friendly land use. In addition, it aims to re-introduce skills that are being lost and create jobs.

The pilot project has secured 22 000 hectares of land and has 800 sheep and about 250 antelope. It has established a shepherding academy to train shepherds and develop shepherding co-operatives. A select number of the shepherds work on the farm, tending to the livestock.

The farm does not kill predators, but implements various non-lethal controls. To solidify its ethical farming practices, the project has developed an ethical brand trademark for game meat, the Fair Game™ brand, in partnership with Woolworths. This will enable consumers to pay directly for the ecosystem services conserved on these farms.

This project is a good example of how traditional skills and knowledge can be applied to commercial agriculture, while minimising environmental impacts.

"We're just using ancient tools that worked for hundreds of thousands of years."

– Jeannine McManus, researcher, Shepherding Back Biodiversity

"Shepherding practices have always focused on balancing ecological restoration with production efficiency. This balance is inextricably linked to profitability."

– Dr. Bool Smuts, project developer, Shepherding Back Biodiversity



BEEMA BAMBOO

Project owner: GreenGrid (Pty) Ltd

Project type: Renewable energy

Project window: Low-carbon economy

Green Fund funding allocation:
R161 million

Location: Ilembe, KwaZulu-Natal

Description:

The Beema Bamboo project demonstrates the environmental and financial benefits of beema bamboo cultivation in South Africa. Beema bamboo is a specially bred variety of bamboo, which is ideally suited as a biomass feedstock to generate energy because it grows quickly and has thick walls. In addition, it acts as a temporary carbon sink.

The project consists of a 320-hectare plantation (500 000 bamboo shoots have already been planted) in Ilembe, KwaZulu-Natal, and a nursery to supply shoots. The nursery has the potential to be scaled up to a tissue culture laboratory for the propagation of bamboo shoots to third parties.

The project's next phase entails building a 3.6 megawatt-capacity power plant that

uses the bamboo to generate electricity using gasification technology.

The project aims to contribute to South Africa's biomass-to-energy industry. If successful, the project could be replicated in other parts of South Africa.

Outcomes to date:

- 85 direct and 100 indirect jobs created
- 85 people trained
- 500 000 bamboo shoots planted
- 240 000 bamboo nursery plants grown

Contribution to Sustainable

Development Goals:

- Goal 7: Affordable and clean energy
- Goal 8: Decent work and economic growth
- Goal 9: Industry, innovation and infrastructure
- Goal 12: Responsible consumption and production



CITY OF CAPE TOWN: THERMAL EFFICIENCY IN LOW-COST HOUSING PROJECT

Project owner: City of Cape Town Metropolitan Municipality

Project type: Energy efficiency

Project window: Green cities and towns

Green Fund funding allocation: R50 million

Location: Cape Town, Western Cape

Description:

Reconstruction and Development Programme houses built in the City of Cape Town before 2005 do not have ceilings or weatherproofing. These cold, damp houses often result in residents developing respiratory diseases such as tuberculosis and asthma.

There are about 50 000 such houses in the City of Cape Town's municipal area.

This project aims to make vulnerable households more resilient to the effects of climate change and to improve living conditions by maximising the energy efficiency of these houses. Interventions include installing thermally insulated ceilings, efficient lighting and weatherproofing. Local small construction businesses undertake the retrofits.

As of October 2016, the City has retrofitted 4 550 units, and a further 3 451 units will be retrofitted during the project's second phase, which will begin in 2017.

Overall, the project contributes to climate change mitigation for the City of Cape Town. It also helps prevent the spread of tuberculosis. Benefits for occupants of these more energy-efficient houses include reduced electricity costs and improved health.

Outcomes to date:

- 700 direct jobs created
- 50 people trained
- 20 185 beneficiaries
- 4 550 units completed

Contribution to Sustainable Development Goals:

- Goal 3: Good health and well-being
- Goal 11: Sustainable cities and communities



JOBS IN WASTE FOR YOUTH

Project owner: Department of Environmental Affairs

Project type: Sustainable waste management and recycling

Project window: Green cities and towns

Green Fund funding allocation:

R67 370 240

Location: Free State and North West

Description:

The Jobs in Waste for Youth project addresses the dual challenge of youth unemployment and lack of capacity to deliver waste management services in municipalities in the Free State and the North West. It does this by placing young people as landfill site assistants, waste collection administrators and environmental awareness educators.

To date, the project has employed 372 youth in the Free State and 382 youth in the North West. Participants receive training and on-the-job upskilling. A limited number of positions have evolved into permanent jobs within the local municipalities. It is hoped that participants will be able to create businesses serving the waste market.

Project participants further improved waste management in communities by educating citizens about waste collection, recycling and improved waste management. Participants developed eco-clubs at local schools to educate learners about the environment and waste.

Outcomes to date:

- 1 243 youth recruited and trained
- 754 direct jobs and 48 indirect jobs created
- 14 000 waste bins distributed

Contribution to Sustainable Development Goals:

- Goal 8: Decent work and economic growth
- Goal 11: Sustainable cities and communities



“The project brings benefits that are linked to improved animal health, skills development and knowledge creation. There are education and behavioural changes ... and there is potential for replication of the project.”

– Leigh Combrink, Endangered Wildlife Trust

OPERATION OXPECKER

Project owner: Endangered Wildlife Trust

Project type: Biodiversity benefiting businesses

Project window: Environmental and natural resource management

Green Fnd funding allocation: R3 million

Location: KwaZulu-Natal and Mpumalanga

Description:

The oxpecker is a tick-controlling bird. Its existence is threatened by human actions and it has been placed on the red list of threatened species database. Operation Oxpecker aims to re-establish and grow the red-billed oxpecker population by capturing and relocating these birds from areas where they are abundant to areas within their historical habitat range where they no longer occur.

Operation Oxpecker has successfully relocated 126 oxpeckers with the Green Fund's support. Education and raising awareness are critical to the project's success.

Operation Oxpecker employees raise awareness among farmers about the benefits of having oxpeckers and using oxpecker-compatible pesticides when dipping cattle. This increase in naturally available methods of tick control helps low-income communities who cannot afford pesticides and is better for the environment.

Outcomes to date:

- 15 direct jobs and 15 indirect jobs created
- 6 people trained
- R778 111 in external financial contributions
- 126 birds relocated with the Green Fund's support

Contribution to Sustainable Development Goals:

- Goal 9: Industry, innovation and infrastructure
- Goal 15: Life on land



“This programme allowed SANParks to build positive working relationships with a number of stakeholders. We worked very closely with the municipality and could also help them to realise projects identified in their integrated development plans.”

– Willem Louw, SANParks manager

SANPARKS RURAL DEVELOPMENT PROGRAMME

Project owner: South African National Parks (SANParks)

Project type: Sustainable land use management and models

Project window: Environmental and natural resource management

Green Fund funding allocation: R3 635 200

Location: Eastern Cape and Western Cape

Description:

The SANParks Rural Development Programme uses biodiversity conservation to encourage rural development by developing mixed-use conservation corridors adjacent to three national parks, namely the Camdeboo National Park and the Mountain Zebra National Park in the Eastern Cape and the West Coast National Park in the Western Cape. This project builds on the success of SANParks’s first initiative, the Nuwejaars Wetland Programme, which targeted land adjoining the Agulhas National Park. The project, in partnership with landowners in the respective corridors, has developed a variety of green-focused projects and improved rural development. Identified projects in the West Coast Biodiversity Corridor include a tourism booklet, ensuring that

the buffer zone is identified as a special management area in municipal spatial development frameworks, and a tourism branding and marketing initiative, West Coast Way. Projects in the Karoo Biodiversity Corridor (the land between the Camdeboo and Mountain Zebra National Parks) include urban gardening projects and a tourism brochure.

These pilot projects illustrate that the protection of biodiversity and heritage can result in job creation, small-business development, economic growth, a low-carbon economy, increased economic participation and spatial integration.

Outcomes to date:

- 33 direct jobs and 8 indirect jobs created
- 13 people trained
- R3.2 million in external financial contributions
- 4 new enterprises created
- 4 130 hectares conserved

Contribution to Sustainable Development Goals:

- Goal 8: Decent work and economic growth
- Goal 11: Sustainable cities and communities



BETONA

Project owner: Incabex (Pty) Ltd

Project type: Industrial cleaner production and consumption

Project window: Low-carbon economy

Green Fund Funding Allocation: R7 million

Location: Cape Town, Western Cape

Description: The BETONA project provides an environmentally friendly alternative to conventional acid steel cleaning, which leads to pollution and the production of waste. Phosphate-based BETONA chemicals are environmentally neutral and can be used in the cleaning and coating of steel and iron.

The project aims to demonstrate the environmental and financial benefits of using BETONA chemicals to the end-user through a production-scale demonstration treatment plant. Benefits of using BETONA include negligible loss of steel during the cleaning process, no creation of hazardous by-products and no need for huge volumes of fresh water. If the production-scale demonstration phase is successful, the project hopes that it will lead to steel manufacturing facilities adopting the use of BETONA in South Africa.

COMMERCIALISATION OF KEVLAR-REINFORCED CONVEYOR BELTING IN SOUTH AFRICA

Project owner: Kevcon Belt (Pty) Ltd

Project type: Energy efficiency

Project window: Low-carbon economy

Green Fund Funding Allocation: R12.3 million

Location: Gauteng and Northern Cape

Description: Traditional conveyor belts are energy inefficient. The Kevlar project promotes the use of an alternative, more energy-efficient conveyor belt in the manufacturing and mining industries. The fabric-based Kevlar-reinforced belt seeks to replace primarily steel cord belts, as well as fabric and polyester belts.

This project involves testing a Kevlar-reinforced conveyor belt before commercialising it. The belt design is a South African invention, which has the potential for worldwide application.

It has significant waste- and emission-reduction benefits. The belt is more energy efficient than traditional belts as it is lighter, more flexible and more resistant to tears. This results in a longer lifespan and lower operation costs. The belt is also fire-resistant.

EDAKENI MUTHI FUTHI

Project owner: Landmark Foundation Trust

Project type: Edakeni Muthi Futhi Trust

Project window: Environmental and natural resource management

Green Fund Funding Allocation: R3 058 720

Location: Edakeni, KwaZulu-Natal

Description: The Edakeni Muthi Futhi project capitalises on indigenous knowledge and growing global demand for medicinal plants. The use of indigenous traditional medicinal plants is growing in South Africa, regionally and internationally. Medicinal plants have various uses: they are used as medicinal remedies and dietary supplements, and in health foods. Increasing demand creates opportunities for conservation and commercial cultivation of different medicinal plants. The Edakeni Muthi Futhi Trust, which commenced with operations in 2010, used the Green Fund's contribution to expand its operations to sell four species of traditional medicinal plants grown on 25 hectares. The work undertaken has since expanded further: the trust is growing 500 000 indigenous medicinal plants on 27 hectares, with up to 42 species under cultivation. This community-based business supports the livelihoods of marginalised women living in rural areas. It aims to create 30 sustainable jobs for women and contribute to the protection of biodiversity by reducing dependence on the wild harvesting of these plants.



ENERGY-EFFICIENT MUNICIPAL BUILDINGS FEASIBILITY STUDY

Project owner: City of Tshwane Metropolitan Municipality and the Council for Scientific and Industrial Research (CSIR)

Project type: Energy efficiency

Project window: Green cities and towns; low-carbon economy

Green Fund Funding Allocation: R780 000

Location: Tshwane, Gauteng

Description: The City of Tshwane aimed to reduce its carbon emissions and energy consumption, and create jobs by installing energy-efficient lighting in 15 of its municipal buildings. It applied for funding to undertake a feasibility study on improving energy efficiency in municipal buildings and the impacts in terms of energy and financial savings. The study showed that the savings varied between R124 and R17 729 per year for newer and older fittings respectively, while the potential energy savings ranged between 124 kWh and 17 729 kWh for newer and older buildings respectively. The study recommended that the City retrofit one flagship building with a full spectrum of energy-efficiency measures to showcase the full benefit of retrofitting. It further recommended prioritising retrofitting buildings that have older lighting technologies and creating awareness campaigns to promote energy-conserving behaviour.

ETHEKWINI REFORESTATION PROGRAMME

Project owner: eThekweni Metropolitan Municipality and the Wildlands Conservation Trust

Project type: Payment for ecosystem services

Project window: Environment and natural resource management

Green Fund Funding Allocation: R36.9 million

Location: Durban, KwaZulu-Natal

Description: The eThekweni Reforestation Programme extends an existing reforestation programme in the Buffelsdraai landfill site to Inanda Mountain and Paradise Valley in Durban. The project helps people in rural communities, in close proximity to the site, collect indigenous seed, grow trees, plant these in previously cultivated areas and degraded natural habitats in the landfill buffer zone, and then maintain them. The Wildlands Conservation Trust implements the project through its Trees for Life Programme, which helps unemployed people set up small-scale indigenous tree nurseries. The trees are exchanged for credit notes, which can then be used to obtain food and basic goods, and for school fees. The new forest serves as a buffer, shielding nearby residents from odours, noise and direct view of the landfill. Furthermore, the project reduces Durban's vulnerability to climate change impacts, such as water insecurity, flooding and various health- and poverty-related impacts.

HAMMARSDALE WASTE BENEFICIATION CENTRE

Project owner: USE-IT

Project type: Waste management and beneficiation

Project window: Green cities and towns

Green Fund Funding Allocation: R29.6 million

Location: Hammarsdale, KwaZulu-Natal

Description: The Hammarsdale Waste Beneficiation Centre project aims to unlock the full value of recyclable waste in eThekweni by establishing a waste beneficiation centre, where different waste streams can be recycled, thereby reducing the volume of waste going to landfill. The project contributes to job creation as local entrepreneurs use the recycled materials to produce green products. The centre includes a community recycling collection centre, upcycling incubators, a compressed earth block yard (which provides environmentally friendly building materials at reduced rates to the local community), an e-waste processing centre, a composting yard, and a plastics and glass collection warehouse. A training centre is being established to address training needs. This project has the potential to create 700 direct jobs and 2 000 indirect jobs, train 500 people, and recycle 300 000 tons of waste in the first five years of operation. In addition, it has the potential to earn R12 million in revenue in its first year of full operation.



RE-SA ORGANIC WASTE TREATMENT TO ENERGY PROJECT: FEASIBILITY STUDY

Project owner: Re-Ethical Environmental Re-Engineering KZN

Project type: Sustainable waste management and recycling

Project window: Green cities and towns

Green Fund Funding Allocation: R500 000

Location: iLembe, KwaZulu-Natal (KZN)

Description: Post the recommendations of the feasibility study, it is envisaged that the Re-SA Organic Waste Treatment to Energy Project may build a dry anaerobic digestion facility (AD) as part of a centralised waste park within the iLembe District in KZN. The process would require the manual separation and recovery of food waste and recyclables from existing mixed solid waste streams throughout the regions of Durban and the northern areas of Ballito. Methane biogas produced by the plant may then be used to generate energy of up to 1 megawatt (MW).

The by-product (digestate), from the AD process may be used as liquid fertiliser or may be further processed as dry fertiliser for use within the agricultural sector.

SMART AND GREEN PLATFORM: SMARTER CITIES FOR A GREENER ECONOMY

Project owner: CSIR/Department of Science and Technology

Project type: Information and communications technology

Project window: Green cities and towns

Green Fund Funding Allocation: R15 million

Location: Johannesburg, Gauteng

Description: The Smarter Cities for a Greener Economy project developed a smart green decision-making platform (smart infrastructure and analytics) to improve the use and management of city resources. This integrated communications technology platform includes demonstrator applications such as a dashboard of performance indicators on, for example, energy usage, forecasting and simulation tools. The idea is to embed the platform in real city environments to track domains such as water and energy.

The project highlights the development and integration of novel technologies in the management of green resources and infrastructure in cities. Future domain applications include stormwater management, parking and traffic congestion.

WILDLANDS WASTEPRENEURS PROJECT

Project owner: Wildlands Conservation Trust

Project type: Sustainable waste management and recycling

Project window: Green cities and towns

Green Fund Funding Allocation: R62 547 930

Location: Gauteng, KwaZulu-Natal and Mpumalanga

Description: The Wildlands Wastepreneurs project aims to improve local livelihoods through the collection and removal of recyclable waste in impoverished and poorly served peri-urban areas, informal settlements and rural areas. It builds on a pilot initiative in the Msunduzi Local Municipality that was initiated in 2010 and which demonstrated that unemployed community members could be motivated to collect a range of recyclable materials in exchange for either credit notes or barter items like bicycles and building materials. This project sought to expand the successful pilot into 21 new communities in KwaZulu-Natal and Gauteng with the aim of creating 4 400 new “wastepreneurs” (largely from long-term unemployed community members) and 93 permanent jobs as facilitators, drivers, loaders and sorters. Regional project managers and jobs at waste depots have also been created. The project has had largely positive impacts on the environment by reducing waste disposed of at landfill sites and in the townships where the project is implemented.



RESEARCH PROJECTS

In addition to investment projects, the Green Fund supports research that builds an evidence base to help South Africa transition to a green economy.

The Green Fund awarded grants to 16 research and policy development proposals. The research reports are available at www.sagreenfund.org.za/research.

The research portfolio consists of projects that address planning, technological, financial and social innovations.

The outcomes of the research projects broadly fall under four themes:

- ▶ Groundwork for new industries in South Africa.
- ▶ Technical and economic feasibility studies for the circular economy.
- ▶ Tools and systems to inform decision-making in green economy investment.
- ▶ Policy evaluations for green economy advancement.

The research projects each produced a peer-reviewed research report and policy brief, which focused on several key economic sectors, including agriculture, energy, waste, biodiversity,

wildlife, construction and transport. In addition, approximately 100 products and publications, including six patents and three prototypes, have been produced.

Partnerships have featured prominently in the research projects. These have included research collaboration as well as engagement and consultation with government, civil society and the private sector. This bodes well for the uptake of the research findings. It is also significant in building awareness and understanding of South Africa's proposed low-carbon transition and what this will entail.

“Investment into research and development is key to unlocking the potential for new and emerging markets in transitioning towards a low carbon economy.”

– Dr. Jenitha Badul, Senior Policy Advisor – Greening Programmes & Fund

Project owner: Asset Research

Project: Sustainable farming as a viable option for enhanced food security and a sustainable, productive resource base

Window: Environmental and natural resource management

Funding: R2.5 million

Footprint: National

Description:

The project investigated whether sustainable farming could be done on a large scale in South Africa and whether it could support a greener, lower-carbon economy that continues to create jobs and improve human well-being.

Project owner: Camco Clean Energy

Project: An assessment of the feasibility of establishing a carbon offsets exchange in South Africa

Window: Low-carbon economy

Funding: R1 410 368.97

Footprint: National

Description:

The research assessed the feasibility of establishing a carbon offsets trading platform at the Johannesburg Stock Exchange as an important input to the development of the offsets component under the proposed South African carbon tax.

Project owner: CM Solutions

Project: Lithium battery recycling: Keeping the future fully charged

Window: Low-carbon economy

Funding: R2.471 million

Footprint: National

Description:

The study developed and tested a locally possible process to recycle lithium batteries that can be taken to the feasibility stage of design. The possibility of mass-scale implementation was also investigated.

Project owner: CSIR

Project: Potential for reducing greenhouse gas emissions in the South African construction sector

Window: Low-carbon economy

Funding: R2 million

Footprint: National

Description:

The research aimed to identify the potential for reducing greenhouse gas emissions in the construction sector by constructing a greenhouse gas inventory for current conventional building materials to use as a baseline for measuring alternative building materials, products, systems and components.

Project owner: CSIR

Project: Evaluation of co-operatives as a developmental vehicle to support job creation and SME development in the waste sector

Window: Green cities and towns

Funding: R2 350 671

Footprint: National

Description:

This project investigated the potential of waste co-operatives to support job creation and SME development by evaluating waste co-operatives in the country, and capturing this learning in practical outputs, which could support future successful implementation of waste co-operatives.

Project owner: CSIR

Project: Development of sustainable bio-based composite products from agricultural biomass

Window: Low-carbon economy

Funding: R2 million

Footprint: National

Description:

The research investigated the viability of using agricultural waste to develop bio-based polymer and bio-composite materials that can be used in green buildings, green packaging and automotive parts as an alternative to petroleum-based products.

Project owner: Endangered Wildlife Trust

Project: An assessment of the economic, social and conservation value of the wildlife ranching industry and its potential to support the green economy in South Africa

Window: Environmental and natural resource management

Funding: R1 381 050

Footprint: National

Description:

The research involved a detailed national assessment of the economic, social and environmental value and conservation contribution of the wildlife ranching industry and its potential to support the green economy in South Africa.

Project owner: Mapungubwe Institute for Strategic Reflection

Project: Earth, wind and fire: Unpacking the political, economic and security implications of discourse on the green economy

Window: Innovation for the green economy

Funding: R2 390 206

Footprint: National

Description:

The research investigated South Africa's green economy landscape in order to provide a framework to aid policymakers to develop a more integrated mix of policy instruments to promote sustainable innovation in South Africa.

Project owner: National Business Initiative and KPMG

Project: The power of collective action in green economy planning:
It's the economy, stupid

Window: Innovation for the green economy

Funding: R2 493 750

Footprint: National

Description:

This research project aimed to provide recommendations for the design of policy frameworks and financial instruments that would accelerate investment in the green economy in South Africa.

Project owner: Rust Geotechnical Consultants

Project: The use of dormant urban mine sites to achieve a greener South Africa

Window: Green cities and towns

Funding: R3 014 331

Footprint: Gauteng

Description:

The project investigated the feasibility of generating renewable energy at dormant mines, including geothermal and solar power.

Project owner: South African Cities Network, Sanedi and Linkd

Project: South African cities green transport programme

Window: Green cities and towns

Funding: R2 499 473

Footprint: National

Description:

An investigation was conducted into the options for further greening the transport sector by switching to green vehicle technologies and alternative fuels such as compressed natural gas. The options were considered in terms of costs, environmental performance, policy and regulatory environment, with particular reference to municipal bus fleets and the minibus taxi industry.

Project owner: South African National Biodiversity Institute, University of KwaZulu-Natal, Zunkel Ecological and Environmental Services, Ground Truth, Future Works and Institute of Natural Resources

Project: Investing in ecological infrastructure to enhance water security in the uMngeni River catchment

Window: Environmental and natural resource management

Funding: R2.5 million

Footprint: KwaZulu-Natal

Description:

The project developed a framework to guide investments in ecological infrastructure in the greater uMngeni River catchment to support water security and climate change resilience, and to advance the inclusion of the concept of ecological infrastructure in decision-making and policy development nationally.

Project owner: Stellenbosch University
Project: A biorefinery approach to improve the sustainability of the South African sugar industry: Assessment of selected scenarios
Window: Low-carbon economy
Funding: R2 499 992
Footprint: National

Description:
The project investigated the economic and environmental viability of producing chemicals and biofuels from sugar biomass in biorefineries attached to sugar mills.

Project owner: Stellenbosch University and BIOPEP
Project: Natural antimicrobial peptides as green microbicides in agriculture: A proof-of-concept study on the tyrocidines from soil bacteria
Window: Innovation for the green economy
Funding: R3 199 277
Footprint: National

Description:
To increase food security, this project produced and tested natural microbicide agents as an alternative to harmful chemicals to protect plants and crops from infections.

Project owner: Stellenbosch University
Project: Research and development of a novel direct-drive permanent magnet generator for renewable energy conversion systems
Window: Innovation for the green economy
Funding: R1 060 058
Footprint: National

Description:
The project aimed to develop a realisable generator technology that may improve the modern wind turbine drive-train by building and testing a 50 kilowatt generator prototype.

Project owner: World Wide Fund for Nature (South Africa)
Project: Enhancing ecological infrastructure in the uMngeni catchment through collective private sector action: The role of private finance and markets
Window: Environmental and natural resource management
Funding: R2.5 million
Footprint: KwaZulu-Natal

Description:
The research aimed to improve understanding of how collective environmental action within the private sector can be leveraged within geographically confined ecosystems using the uMngeni catchment as an example.

CAPACITY-BUILDING PROJECTS

To address South Africa's need for a diverse skills base to support the green economy, the Green Fund provided R65.9 million in funding for eight capacity-building projects, which focus on skills development, SMME development and institutional capacity development.

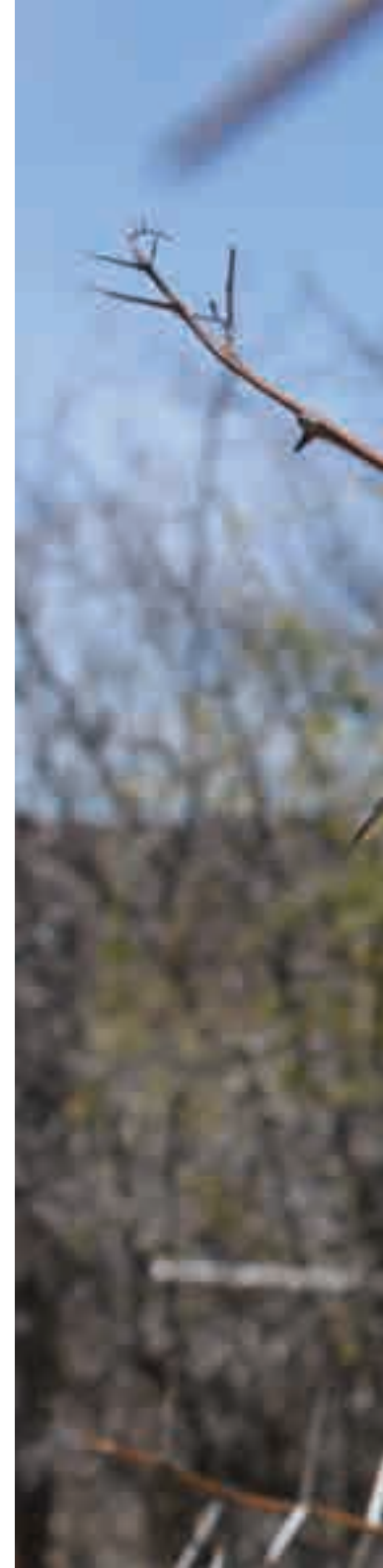
Impacts from the capacity-building projects include:

- ▶ Increased awareness of practical low-carbon trajectory options, such as expanding the energy supply mix and energy efficiency.
- ▶ Development of green sectors to expand the economic base.
- ▶ Development of local jobs, including for the youth.
- ▶ Increased provision of cleaner energy technologies.
- ▶ Furthering the establishment of the Environmental Assessment Practitioners Association of South Africa.
- ▶ Increased institutional capacity at tertiary institutions and increased knowledge of the green economy.

In addition to diversifying the skills base, these capacity-building projects will increase awareness about the importance of the green economy and hopefully inspire others to commit to the transition to greener development.

“In order to advance the green economy agenda for South Africa, an adequately trained and skilled workforce is imperative. The capacity development component of the Green Fund begins to address the skills gap.”

– Dr. Jenitha Badul, Senior Policy Advisor – Greening Programmes & Fund





Project owner: National Labour and Economic Development Institute

Project: Building Climate Change Capacity for Affiliates of the Congress of South African Trade Unions

Window: Low-carbon economy

Funding: R3 195 500

Footprint: National

Description:

The National Labour and Economic Development Institute aims to build the labour movement's capacity to respond to climate change policy and implementation processes in South Africa through workshops, seminars and a national conference, as well as engagement with key sectors such as mining and agriculture.

Outcomes: All relevant administrative processes completed with full implementation commencing 2017

Project owner: National Research Foundation

Project: Green Economy Postdoctoral Fellowships Programme

Window: Low-carbon economy

Funding: R12.2 million

Footprint: National

Description:

The Green Economy Postdoctoral Fellowships Programme aims to support 20 postdoctoral fellows in green economy research areas over a three-year period, 2015–2017, at institutions across South Africa, to address the knowledge gap at these institutions. Based on the lessons learnt, the programmes will be expanded to additional tertiary institutions.

Outcomes: Skills development: 17 postdoctoral fellowships awarded
Institutional capacity development: The 17 fellowships will support and complement teaching capacity on green economy subject areas

Project owner: Trevor Huddlestone Memorial Centre

Project: Sophiatown Green Incubator Project

Partners: Resonance Group

Window: Green cities and towns

Funding: R11.3 million

Footprint: Gauteng

Description:

The project involves the establishment of a green economy incubator to support green SMMEs and youth through skills development and mentorship.

Outcomes: Skills development: 77 youth identified for mentoring
SMME development: 41 businesses registered for support and/or incubation;
134 entrepreneurs inducted into the incubator programme

Project owner: Rhodes University Environmental Learning Research Centre

Project: Building System Capacity for Green Skills Development in South Africa

Partners: National Environmental Skills Planning Forum, University of the Witwatersrand, University of the Western Cape, African Climate and Development Initiative (University of Cape Town), Wildlife and Environment Society of South Africa, World Wild Fund for Nature (South Africa) and GreenMatter

Window: Low-carbon economy

Funding: R6.6 million

Footprint: National

Description:

The programme aimed to introduce a system-wide institutional capacity-building initiative to build the ability of the national skills development system to strategically produce green skills to enable green business, green jobs and green growth in a coordinated manner.

Outcomes: Skills development: National stakeholder consultations, workshops and symposiums have been held; a demand-side toolkit is being piloted.
Institutional capacity development: www.greenskills.co.za allows for regular posting of information on green skills research and planning, as well as for dialogue and interaction. Other outputs include an e-newsletter, a policy brief and an academic article.

CONCLUSION

Several key themes have emerged from the projects and initiatives highlighted in this publication, including resource efficiency, innovation and social upliftment.

Several projects contribute to resource efficiency through sustainable land use management practices and biodiversity conservation, such as Operation Oxecker, the Shepherding Back Biodiversity project and the SANParks Rural Development Programme. Benefits include improved ecosystem services.

Sustainable waste management is key to improved resource efficiency. Funded projects address waste management through various means. The Hammarsdale Waste Beneficiation Centre re-uses waste to create green products, creating jobs in the process, while the Wildlands Wastepreneurs project employs locals to collect recyclable waste in areas poorly serviced by municipalities.

Innovation has been illustrated at both large and small scales through new green technologies, such as the

waste-to-energy projects (the Beema Bamboo project, the Re-SA Organic Waste Treatment to Energy Project and the Cavalier Bio-Waste Treatment and Combined Heat and Power Facility) and the BETONA project, which provides an environmentally friendly alternative to conventional acid steel cleaning. Such projects have clearly shown the benefits and viability of green technologies.

Innovation has been combined with the use of traditional knowledge – the Shepherding Back Biodiversity project combines traditional knowledge (shepherding) with innovative practices, such as mechanisms to deter jackals from catching sheep; the Edakeni Muthi Futhi Trust uses traditional knowledge of medicinal herbal plants to conserve and cultivate plants; and Operation Oxecker educates farmers about the benefits of oxeckers to control ticks.

Job creation and capacity building have been key factors in many of the Green Fund's projects. To date, these projects have created about 2 355 direct jobs and 9 285 indirect jobs.

In addition, about 8 857 people have been trained through projects such as Wastepreneurs and Farming the Wild. Related to job creation is the empowerment of women – iShack has trained female technicians; the Edakeni Muthi Futhi project is run by women living in KwaZulu-Natal; and the Camdeboo Satellite Aquaculture Project employs mostly women.

The supported projects will contribute to South Africa's green economy knowledge base. Successes and lessons learnt can be used to improve projects so that they can be expanded or replicated.

The ultimate aim is to develop technologies and projects for our diverse environments and communities, and, in so doing, conserve South Africa's natural resources, uplift our communities and stimulate sustainable economic development.

With valuable experience gained over the last five years, and having conducted independent reviews of the

Green Fund during 2015/2016, the Department of Environmental Affairs looks to the future and seeks to secure additional investment from national and international sources, both public and private, in order to continue supporting innovative projects that allow South Africa to smoothly transition to a low-carbon, climate-resilient green economy.

“The small “wins” as realised by the Green Fund, in providing the much needed financial support to low-carbon demonstration projects provides a clear indication of the Fund’s role in transitioning to a low-carbon, climate-resilient green economy.”

– Dr. Jenitha Badul, Senior Policy Advisor – Greening Programmes & Fund



References

Department of Environmental Affairs. 2008. National Framework for Sustainable Development. Available: https://www.environment.gov.za/sites/default/files/docs/2008nationalframeworkfor_sustainabledevelopment.pdf [2016, November 8].

Department of Environmental Affairs. 2011. National Climate Change Response White Paper. Available: https://www.environment.gov.za/sites/default/files/legislations/national_climatechange_response_whitepaper.pdf [2016, November 8].

Department of Trade and Industry. 2010. 2010/11–2012/13 Industrial Policy Action Plan. Available: http://ipasa.co.za/Downloads/Policy%20and%20Reports%20-%20Economic%20and%20Industrial/IPAP2010-2013_18_FEB_2010.pdf [2016, November 8].

Economic Development Department. 2010. New Growth Path. Available: <http://www.economic.gov.za/communications/publications/new-growth-path-series> [2016, November 8].

Economic Development Department. 2011. The Green Economy Accord. Available: <http://www.economic.gov.za/communications/publications/green-economy-accord> [2016, November 8].

Green Fund. 2015. Green Fund Annual Report, 2014–2015. Forthcoming.

National Planning Commission. 2012. National Development Plan 2030: Our Future – Make It Work. Available: <http://www.nationalplanningcommission.org.za/Pages/Downloads.aspx> [2016, November 8].

United Nations. 2015. Transforming Our World: The 2030 Agenda for Sustainable Development A/RES/70/1. Available: <https://sustainabledevelopment.un.org/content/documents/21252030%20Agenda%20for%20Sustainable%20Development%20web.pdf> [2016, November 8].

United Nations Environment Programme. 2012. About Green Economy. Available: <http://www.unep.org/rio20/About/GreenEconomy/tabid/101541/Default.aspx> [2016, November 8].

United Nations Environment Programme. 2015. Uncovering Pathways Towards an Inclusive Green Economy: A Summary for Leaders. Available: <http://web.unep.org/greeneconomy/resources/uncovering-pathways-towards-inclusive-green-economy-summary-leaders> [2016, November 28].

United Nations Framework Convention on Climate Change. 2015. Paris Agreement. Available: http://unfccc.int/files/home/application/pdf/paris_agreement.pdf [2016, November 8].

CONTACT DETAILS

DEPARTMENT OF ENVIRONMENTAL AFFAIRS

Environment House
473 Steve Biko Street
Arcadia
Pretoria
0083
Fax: +27 12 359 3625

EMAIL: callcentre@environment.gov.za
ENVIRONMENTAL CRIME HOTLINE: 0800 205 005
CALL CENTRE: 086 111 2468

WEBSITE: www.environment.gov.za

